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ABSTRACT

A program for early identification of children who are a high risk for failure in a primary French immersion program was undertaken in Ontario, Canada. As the last year of a three-year project, the investigation was designed to identify a set of variables predictive of success or failure in the primary program. The predictive validity of measures obtained during the four-year-old kindergarten program in English was assessed in terms of criterion measures of academic achievement in English and French obtained in the five-year-old kindergarten French immersion program. Criterion measures were proficiency measures administered in both French and English, classroom behavior ratings, and parent ratings. Of the 200 children who were selected to undergo the Early Identification Assessment Battery in the spring of 1977, 184 were retested in the spring of 1978 using the Kindergarten Follow-up Assessment Battery. Important differences were found at the four-year-old kindergarten level for groups of high and low achievers formed on the basis of French comprehension percentile scores. Differences were also found among achievement groups formed on the basis of teachers' ratings of five-year-old kindergarten pupils. Follow-up assessments are planned for the spring of the grade one program. Sample questionnaires and rating forms are appended. (SW)

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ASSESSMENT OF READINESS FOR PRIMARY FRENCH IMMERSION

Kindergarten Follow-up Assessment

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ABSTRACT

Initially, two years of study of "Learning Disabilities Found in Association with French Immersion Programming" indicated that children who encounter difficulty in primary French immersion programs may have a specific learning disability characterized by a maturational lag in the temporal lobe regions of the brain. Biographical and background variables that may be related to success and failure in such programs were also identified in these studies.

The second year of a three year follow-up investigation to identify a set of variables predictive of success or failure in primary French immersion programs is reported. In the first phase of the three year study, biographical and background information and teacher ratings were obtained on approximately 1,000 children in the Spring of their English four-year-old kindergarten program. The results indicated describable patterns of differences for children entering different kindergarten programs (French immersion versus the regular English program). There were also patterns of differences among children entering French immersion.

Differences were found in terms of family characteristics, preschool experience, parental attitudes towards the French language and parents educational goals for their children. Informal criteria used by teachers for recommending French immersion or the English program were identified.

In the first phase, the Early Identification Assessment Battery, which included measures of intelligence, readiness skills, language abilities and problem-solving abilities, was administered to 200 of the 1,000 four-year-old kindergarten participants. These 200 children were to be enrolled in five-year-old French immersion kindergarten in September of 1977. The predictive validity of the biographical and background information, teacher ratings and measures of the assessment battery was evaluated against criterion measures of achievement in English and French evaluated in the Spring of the five-year-old French immersion kindergarten program. The results of this second phase, the Kindergarten Follow-up Assessment, are reported.

One hundred and eighty-four of the 200 children were reassessed. One hundred and fifty-nine children were in French immersion kindergarten; six children had transferred to an English program; eleven children

were enrolled in the English program; seven children were enrolled in a bilingual program; one child was in Grande one French immersion and one child was in a Grade one English program.

The predictive validity of the measures of the Early Identification Assessment Battery was assessed. Step-wise multiple linear regression analyses and Pearson product-movement correlations were computed for 35 predictor variables of the Early Identification Assessment Battery and 11 criterion variables of the Kindergarten Follow-up Assessment Battery. Relationships were established between four-year-old and five-year-old kindergarten measures. Important differences were found at the four-year-old kindergarten level for groups of high and low achievers formed on the basis of percentile scores on a measure of French comprehension. Differences were also found among achievement groups formed on the basis of five-year-old kindergarten teachers' ratings. These findings indicate that such differences may eventually be used to predict a group of children who will not progress well in the French immersion program. Follow-up assessments are planned for the Spring of the Grade one program. The greater academic demands of the Grade one program are expected to yield greater variability

in achievement and outcomes at this level will be used to validate the predictive value of measures obtained in four-year-old and five-year-old kindergarten.

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TABLE OF CONTENTS

	Page
INTRODUCTION	1
Major Findings of the First Two Years of Study	1
Predicting Success in French immersion Programs	3
Assessment of Readiness for Primary French immersion.	6
THE SAMPLE	9
PROCEDURE	10
Kindergarten Follow-up Assessment Battery	10
i) Psychometric measures	12
ii) Rating Scales	15
Statistical Analysis	18
RESULTS	18
Comparison of Four Kindergarten Enrolment Groups	19
Descriptive Information	20
Biographical and Background Information Questionnaire	20
Socio-economic Status	22
Preschool Experience	24
Siblings in French immersion	26
Parental Attitudes and Advantaged Home Background Variables	26
Reasons for Choosing French immersion Kindergarten	28

	Page
Parents Ratings	30
Reasons for Choosing the English Kindergarten Program	31
Reasons for Transferring to the English Kindergarten Program	32
Reasons for Choosing the Bilingual Kindergarten Program	32
Program Choices for September of 1978	33
Possibility of Future Enrolment in French immersion	36
Concerns about the French immersion Kindergarten Program	36
Parental Reports Regarding the Progress of their Children in Five-year-old Kindergarten	39
Exposure to French	42
Four-year-old Kindergarten Teacher Ratings	42
Ability, Social Maturation and Motivation	43
Predictions re Difficulty in School	43
Advising French immersion Enrolment	45
Five-year-old Kindergarten Teacher Ratings	46
Teacher Ratings of Functioning Level	46
Teacher Ratings of Comprehension of French	48
Teacher Ratings of Oral Skills in French	49
Five-year-old Kindergarten Teachers' Recommendation re French immersion Enrolment	50
Teachers' Reasons for Recommending French immersion Enrolment	52

Page

Teachers' Reasons for Not Recommending French immersion Enrolment 54

Teacher Reports of Difficulty in Kindergarten 56

Reasons for Difficulties Encountered in Kindergarten 58

Special Help in Five-year-old Kindergarten 60

Types of Special Help 61

Kindergarten Teachers' Expectations re Future Special Help 63

Types of Future Special Help 64

Early Identification Assessment Battery 66

Kindergarten Follow-up Assessment Battery 69

Comparisons Involving Children Enrolled in Five-year-old French immersion Kindergarten 71

Predicting Achievement in Five-year-old French immersion Kindergarten on the Basis of Criterion Measures Obtained in Four-year-old Kindergarten 71

Prediction of Achievement in French 75

French Comprehension Test 76

Letter-naming in French 76

Counting and Number-naming in French 80

Speed of Picture-naming in French 80

Picture-naming in French (Errors) 82

Summary of Prediction of Achievement in French 85

Page

Prediction of Achievement on Measures in the English Language 86

Peabody Picture Vocabulary Test (IQ) 86

Wide Range Achievement Test (WRAT) Reading Percentile 87

Wide Range Achievement Test (WRAT) Spelling Percentile 89

Wide Range Achievement Test (WRAT) Arithmetic Percentile 91

Renfrew Action Picture Test 93

Summary of Predictions of Achievement on Measures in the English Language 97

Comparisons of High Achievers and Low Achievers in Five-year-old French immersion Kindergarten 98

Descriptive Information 99

Teachers' Advice re French immersion Enrolment 101

Five-year-old Kindergarten Teachers' Ratings of Achievement 103

Early Identification Assessment Battery 107

Kindergarten Follow-up Assessment Battery 109

Summary of Comparisons of High and Low Achievers 111

Achievement Groups Formed on the Basis of Five-year-old Kindergarten Teachers' Ratings of Achievement 112

Nonparametric Correlations with Teachers' Ratings of Achievement 113

	Page
Comparisons of French Comprehension Achievement Groups	117
Kindergarten Follow-up Assessment Battery	117
Early Identification Assessment Battery	122
Four-year-old Kindergarten Teachers' Ratings	125
Five-year-old Kindergarten Teachers' Ratings	129
Comparisons of French Oral Skills Achievement Groups	132
Kindergarten Follow-up Assessment Battery	132
Early Identification Assessment Battery	136
Four-year-old Kindergarten Teachers' Ratings	136
Five-year-old Kindergarten Teachers' Ratings	141
Comparisons of Kindergarten Achievement Groups	144
Kindergarten Follow-up Assessment Battery	144
Early Identification Assessment Battery	148
Four-year-old Kindergarten Teachers' Ratings	151
Five-year-old Kindergarten Teachers' Ratings	154

Page

SUMMARY and CONCLUSION. 157

REFERENCES. 168

APPENDICES 172

1. Test Behavior Observation Guide (Observer Checklist) 172

2. Conners Teacher Questionnaire (English and French Versions) 174

3. Teacher Ratings (English and French Versions) 177

4. Parents Ratings 182

5. Biographical and Background Information Questionnaire 199

6. Four-year-old Kindergarten Teacher Ratings 204

7. Test Names and Abbreviations 206

LIST OF TABLES

Table		Page
1.	Kindergarten Follow-up Assessment Battery. . .	11
2.	Sex, Hand Dominance, Age and Test-Retest Interval Comparisons of the Four Kindergarten Enrolment Groups	21
3.	Means, Standard Deviations and F Ratios for SES Comparisons of the Four Kindergarten Enrolment Groups	23
4.	Chi-square Analyses Comparing the Four Kindergarten Enrolment Groups in Terms of Attendance at Nursery School and Day Care Centres	25
5.	Chi-square Analyses comparing the Four Kindergarten Enrolment Groups in Terms of Siblings Enrolled in French immersion	27
6.	Frequency of Occurrence of Twelve Categories of Parents' Reasons for Enrolling Children in French immersion	29
7.	Parental Choice of School Programs for September, 1978.	34
8.	Parental Decisions Regarding Future Enrolment in French immersion.	37
9.	Frequency of Occurrence of Eight Categories of Concerns about the French immersion Kindergarten Program	38
10.	Chi-square Analyses of Four-year-old Kindergarten Teachers' Ratings of Ability, Social Maturation and Motivation.	44
11.	Chi-square Analysis Comparing the Four Kindergarten Enrolment Groups in Terms of Four-year-old Kindergarten Teachers' Advice re French immersion Enrolment.	45
12.	Chi-square Analyses Comparing the Four Kindergarten Enrolment Groups in Terms of Five-year-old Kindergarten Teachers' Ratings of Functioning Level, Comprehension of French and French Oral Skills.	47

Table		Page
13.	Chi-square Analysis Comparing the Four Kindergarten Enrolment Groups in Terms of the Five-year-old Kindergarten Teachers' Recommendation re French immersion Enrolment .	51
14.	Frequency of Occurrence of Nine Categories of Reasons Cited by Five-year-old Kindergarten Teachers for Recommending French immersion Enrolment.	53
15.	Frequency of Occurrence of Ten Categories of Reasons Cited by Five-year-old Kindergarten Teachers for Not Recommending French immersion Enrolment.	55
16.	Chi-square Analysis Comparing the Four Kindergarten Enrolment Groups in Terms of Teacher Reports of Difficulty in Kindergarten.	57
17.	Frequency of Occurrence of Nine Reasons for Difficulties Encountered in Kindergarten . . .	59
18.	Chi-square Analysis Comparing the Four Kindergarten Enrolment Groups in Terms of Special Help Received in Five-year-old Kindergarten. .	60
19.	Frequency of Occurrence of Various Types of Special Help Received During Five-year-old Kindergarten	62
20.	Chi-square Analysis Comparing the Four Kindergarten Enrolment Groups in Terms of Teachers' Expectations re Future Special Help.	63
21.	Frequency of Occurrence of Various Types of Special Help that Children were Expected to Require the Following School Year.	65
22.	Means, Standard Deviations, F Ratios and the Results of Scheffé's for Significant Comparisons of the Four Kindergarten Enrolment Groups on Measures of the Early Identification Assessment Battery	67

Table		Page
23.	Means, Standard Deviations, F Ratios and the Results of Scheffé's for Significant Comparisons of the Four Kindergarten Enrolment Groups on Measures of the Kindergarten Follow-up Assessment Battery	70
24.	Criterion and Predictor Variables Involved in the Correlational Analysis and Multiple Linear Regression Analysis	72
25.	Pearson-Product-moment Correlations Computed Among the Criterion and Predictor Variables. .	74
26.	Results of the Multiple Linear Regression Analysis for the French Comprehension Test (percentile)	77
27.	Results of the Multiple Linear Regression Analysis for Letter-naming in French	79
28.	Results of the Multiple Linear Regression Analysis for Counting and Number naming in French	81
29.	Results of the Multiple Linear Regression Analysis for Picture-naming in French (Speed).	83
30.	Results of the Multiple Linear Regression Analysis for Picture-naming in French (Errors)	84
31.	Results of the Multiple Linear Regression Analysis for the Peabody Picture Vocabulary Test (IQ)	88
32.	Results of the Multiple Linear Regression Analysis for WRAT Reading (Percentile)	90
33.	Results of the Multiple Linear Regression Analysis for WRAT Spelling (Percentile). . . .	92
34.	Results of the Multiple Linear Regression Analysis for WRAT Arithmetic (Percentile). . .	94
35.	Results of the Multiple Linear Regression Analysis for Renfrew Action Picture Test Information Score.	95

Table		Page
36.	Results of the Multiple Linear Regression Analysis for Renfrew Action Picture Test Grammar Score	96
37.	Sex, Hand Dominance and Age Comparisons of High Achievers and Low Achievers.	100
38.	Chi-square Analysis Comparing High and Low Achievers in Terms of Teachers' Advice re French immersion Enrolment.	102
39.	Chi-square Analyses Comparing High and Low Achievers in Terms of Five-year-old Kindergarten Teachers' Ratings of Achievement . . .	105
40.	Means, Standard Deviations and T-scores for Significant T-test Comparisons of High and Low Achievers on the Early Identification Assessment Battery.	108
41.	Means, Standard Deviations and T-scores for Significant T-test Comparisons of High and Low Achievers on the Kindergarten Follow-up Assessment Battery.	110
42.	Nonparametric Correlations (Kendall's Tau) Among Measures of the Early Identification Assessment Battery and Five-year-old Kindergarten Teachers' Ratings of Achievement . . .	114
43.	Means, Standard Deviations, F Ratios and the Results of Scheffé's for Comparisons of Three French Comprehension Achievement Groups on French Measures of the Kindergarten Follow-up Assessment Battery.	119
44.	Means, Standard Deviations, F Ratios and the Results of Scheffé's for Significant Comparisons of Three French Comprehension Achievement Groups on the Kindergarten Follow-up Assessment Battery.	121
45.	Means, Standard Deviations, F Ratios and the Results of Scheffé's for Significant Comparisons of Three French Comprehension Achievement Groups on the Early Identification Assessment Battery	123

Table		Page
46.	Chi-square Analysis Comparing Three French Comprehension Achievement Groups in Terms of Four-year-old Kindergarten Teachers' Ratings.	127
47.	Chi-Square Analyses Comparing Three French Comprehension Achievement Groups in terms of Five-year-old Kindergarten Teachers' Ratings.	130
48.	Means, Standard Deviations, F Ratios and the Results of Scheffé's for Comparisons of Three French Oral Skills Achievement Groups on French Measures of the Kindergarten Follow-up Assessment Battery	133
49.	Means, Standard Deviations, F Ratios and the Results of Scheffé's for Significant Comparisons of Three French Oral Skills Achievement Groups on the Kindergarten Follow-up Assessment Battery	135
50.	Means, Standard Deviations, F Ratios and Results of Scheffé's for Significant Comparisons of Three French Oral Skills Achievement Groups on the Early Identification Assessment Battery.	137
51.	Chi-square Analyses Comparing Three French Oral Skills Achievement Groups in Terms of Four-year-old Kindergarten Teachers' Ratings	140
52.	Chi-square Analyses Comparing Three French Oral Skills Achievement Groups in Terms of Five-year-old Kindergarten Teachers' Ratings	142
53.	Means, Standard Deviations, F Ratios and Results of Scheffé's for Comparisons of Three Kindergarten Achievement Groups on French Measures of the Kindergarten Follow-up Assessment Battery.	145
54.	Means, Standard Deviations, F Ratios and Results of Scheffé's for Comparisons of Three Kindergarten Achievement Groups on the Kindergarten Follow-up Assessment Battery.	147

Table Page

55. Means, Standard Deviations, F Ratios and Results of Scheffé's for Significant Comparisons of Three Kindergarten Achievement Groups on the Early Identification Assessment Battery. 149

56. Chi-square Analyses Comparing Three Kindergarten Achievement Groups in Terms of Four-year-old Kindergarten Teachers' Ratings 153

57. Chi-square Analyses Comparing Three Kindergarten Achievement Groups in Terms of Five-year-old Kindergarten Teachers' Ratings 155

INTRODUCTION

The study to be reported represents the fourth study in a series concerned with specific learning difficulties of some children in primary French immersion programs. In the primary French immersion program, English-speaking children beginning in the primary grades are exposed to French as the language of instruction for most of the school day. In many school systems, kindergarten and grade one are taught exclusively in French, with instruction in the English language being introduced and gradually increased in later grades.

Major Findings of the First Two Years of Study

The first two years of study were concerned with Learning Disabilities Found in Association with French Immersion Programming (Trites and Price, 1976, 1977). In the first study, it was found that children who had difficulty in primary French immersion were distinct from children diagnosed as having a primary reading disability, minimal brain dysfunction, a primary emotional disturbance or as being hyperactive. The children with difficulty in French immersion had a unique pattern of deficits. This group had a high IQ and excellent motor

and sensory functions, and yet performed the most poorly on a complex psychomotor problem-solving task. The findings were interpreted as evidence of a maturational lag in the temporal lobe regions of the brain. It is known that the temporal lobes are important structures in subserving verbal and nonverbal perceptual and memory functions, as well as containing the auditory centers of the cerebral cortex.

The second study (Trites and Price, 1977) was undertaken to cross-validate the findings of the first study using a nonclinical sample, and to further delineate the maturational deficit. Sixteen children who had dropped out of French immersion (Drop-out) were matched for age and sex with 16 children who began in the same French immersion class as the Drop-outs, but were still doing well in the French immersion program (Controls). The control group was characterized as having higher scores on IQ tests, a higher socio-economic level and a history of starting nursery school at an earlier age as compared with the Drop-out group. The neuropsychological profiles of Drop-outs and Controls were substantially different. With IQ controlled statistically, these groups differed on the behavior rating scales and specialized reading subskill tests of oral reading and

comprehension. The earlier finding of a tactual performance deficit suggesting a specific maturational lag in temporal lobe regions was evident in the Drop-out group. The difference was statistically significant in younger children (below age 9), but, consistent with a maturational lag hypothesis, the differences had disappeared in the over-age-9 group, although the trend was still in favour of the Control group. Subgroups of Drop-outs were observed, with the pattern of differences in the left-handed Drop-outs differing from that of the right-handed Drop-outs.

Predicting Success in French Immersion Programs

From this initial work, it was clear that not all children of above average intelligence along with excellent motor and sensory skills experienced success in the primary French immersion programs. Although parents' decisions to enrol a child in French immersion may be guided by informal and widely used selection procedures, no set of variables has been validated as predictive of success or failure in the primary French immersion program.

There have been very few attempts to determine variables predictive of later achievement in primary French immersion programs. Edwards and Smythe (1976) assessed the predictive validity of measures obtained in grade one French immersion in relation to performance on measures of English and French achievement in grade four French immersion. Two different sets of significant predictors were found for two samples, with teacher ratings of behavior among the best predictors.

Swain and Burnaby (1976) attempted to relate personality characteristics of kindergarten children, as rated by teachers, to French language achievement scores obtained in kindergarten, grade one and grade two. Perfectionist tendencies correlated highly with second language achievement. Quickness in grasping new concepts was also related to second language achievement.

Tourond, Thomson, Lokan and Hendelman (1977) assessed the predictive validity of a specially developed Checklist of French Immersion Kindergarten Teacher Observations in relation to measures of achievement in French administered at the end of kindergarten and grade one French immersion. The Checklist was found to have validity as a measure of readiness. However,

it had only marginal validity as a predictor of achievement in French.

Although there is a dearth in studies attempting to predict success or failure in French immersion programs, there has been a great deal of research devoted to the prediction of success or failure in school, or in handling specific aspects of the school curriculum, especially reading. Many factors have been investigated in relation to school achievement: sex (Wand, 1974; Faust, 1970), socio-economic status (Faust, 1970), preschool experience (Huberty and Swan, 1974; Lokan, Halpern, Day and Brooks, 1976), IQ (Dykstra, 1965; Adelman, Feshbach and Fuller, 1973; Plant and Southern, 1968), language factors (Newcomer and Hammill, 1975), visual discrimination (Barrett, 1965), visuo-motor ability (Koppitz, Sullivan and Blyth, 1959; Keough and Smith, 1967, 1970), auditory discrimination (Dykstra, 1965); readiness skills (deHirsch and Jansky, 1966; Goodstein, Own and Cawley, 1975; Ferinden, Jacobson and Linden, 1970; Hopkins and Sitkei, 1969), behavior ratings (Adelman et al., 1973; Attwell, Orpet and Meyers, 1967; Keogh and Smith, 1970; Novack, Bonaventura and Merenda, 1973), and so on. The reader is referred to Trites and Price (1978) for an in-depth review of studies concerned with the prediction of success in school.

Successful screening of children, i.e. the identification of children who are likely to encounter difficulties in the school curriculum, is viewed as an important goal. With such procedures, steps can be taken early in a child's career to avoid programs in which he is likely to encounter failure, to design remedial techniques suitable for the child and to encourage flexibility in existing programs so that the needs of individual children will be met. Early failure in a school program can be very harmful to a child and should be avoided whenever possible (Kohlberg, LaCrosse and Ricks, 1972).

Assessment of Readiness for Primary French Immersion

The early identification of children who are a high risk for failure in a primary French immersion program is the goal of a three year study which began during the 1976-77 school year. The first phase of the Assessment of Readiness for Primary French Immersion is presented elsewhere (Trites and Price, 1978). This three year project is designed to identify a set of variables predictive of success or failure in primary French immersion programs. The predictive validity of measures obtained for children in the Spring of their English four-year-old kindergarten program will be assessed in terms of criterion

measures of academic achievement in English and French obtained in the Spring of five-year-old French immersion kindergarten and again in the Spring of grade one French immersion.

The sampling procedures by which 200 children were selected for intensive study are presented in detail in the report of the first phase of the study (Trites and Price, 1978). Demographic data, biographical and background information, parental opinions and teacher ratings were gathered for these children. In addition, each child received the Early Identification Assessment Battery, which consisted of measures of intelligence, readiness, receptive and expressive language skills in English, academic achievement levels, colour naming, picture naming, word segmenting and the geometric form-board test of tactual performance.

The 200 children were selected from among 1,330 children in 77 four-year-old kindergarten classes of the Ottawa Board of Education. Descriptive information collected for these children indicated that there were differences in terms of the characteristics of families of children entering different school programs, i.e. French immersion versus the regular English program. Children entering French immersion tended to come from higher socio-economic status and more advantaged homes, compared

to children entering the English program. The French immersion enrolments were also treated differently by their parents in that they attended preschool more frequently and were read to at home more frequently.

Parental attitudes towards the French language also differed. Parents who intended to enrol their children in French immersion tended to express greater interest in speaking or learning to speak French themselves, compared to parents choosing the English program. Parents reasons for choosing or not choosing French immersion appeared to be based upon the educational goals that they considered to be important, for example, functional bilingualism versus a solid grounding in English language skills. The choices were frequently made irrespective of the child's particular learning characteristics and seemed to reflect more a "life-style" decision.

It was found from the teacher ratings that consistent, although informal, criteria were used in either recommending or not recommending children for primary French immersion programs. The criteria for advising against enrolment were different from the reasons usually cited in recommending French immersion enrolment.

The second phase of the assessment of readiness for primary French immersion is presented in this report. In this phase of the research study, the 200 children who received the Early Identification Assessment Battery in the Spring of 1977 were followed to determine their academic progress during the 1977-78 school year. The predictive validity of the measures obtained at the end of the four-year-old kindergarten year was evaluated in the light of outcome measures in the Spring of the five-year-old kindergarten program for the children who were in French immersion at the end of kindergarten. Criterion measures were proficiency measures administered in both French and English, classroom behavior ratings and parent ratings. Additional measures of psychomotor problem-solving ability and readiness skills of listening comprehension and problem-solving were also obtained to be used as predictors with regard to future performance in the grade one program.

THE SAMPLE

One hundred and eighty-four children from the original sample of 200 children were retested in May and June of 1978. One hundred and fifty-nine children were enrolled

in French immersion kindergarten in 12 schools of the Ottawa Board of Education. One child was enrolled in French immersion grade one. Seventeen children were attending a regular English kindergarten program in 13 schools of the Ottawa Board of Education. Six of these 17 children had been transferred from a French immersion kindergarten to the English program during the 1977-78 school year. One child was enrolled in an English grade one program. Six children were enrolled in a bilingual kindergarten program offered by the Ottawa Separate School Board in which they were instructed in the French language for one half of the school day and in the English language for the remaining half day. Fifteen children from the original sample had left the Ottawa area and could not be located for a reassessment. One mother of a child attending the bilingual program requested that her child not be reassessed.

PROCEDURE

Kindergarten Follow-up Assessment Battery

The measures obtained at the end of the five-year-old kindergarten program are presented in Table 1. The complete Follow-up Assessment Battery was administered

TABLE 1

Kindergarten Follow-up Assessment Battery

I. Psychometric Measures

CIRCUS: An Assessment Program for Pre-primary children:

9: Listen to the Story

#13: Think it Through

* French Comprehension Test, Primer

Peabody Picture Vocabulary Test, Form B

Wide Range Achievement Test

Tactual Performance Test

* Picture-naming (in French)

Word Segmentation

Renfrew Action Picture Test

* Knowledge of Numbers and Letters in French

II. Rating Scales

Test Behavior Observation Guide (Observer checklist)

Conners Teacher Symptom Questionnaire

Teacher Ratings

Parents' Ratings (alternate versions for the 4 school situations)

* These measures were not administered to children in the English program.

to the children who were in the French immersion program or in the bilingual program in the Spring of 1978. Children attending the French immersion program were assessed in their school in two sessions. One testing session consisted of two CIRCUS tests and the French Comprehension Test, Primer (Barik, 1977) administered to groups of three to five children. The remaining measures were administered in an individual testing session. Children attending the bilingual program came to the Neuropsychology Laboratory, Royal Ottawa Hospital, for one testing session. Children in the English program did not receive measures of French language skills and were assessed in their schools in a single individual testing session.

The measures obtained in the Spring of 1978 are described in detail below.

i) Psychometric measures

CIRCUS: An Assessment Program for Pre-primary children (1974)

9: Listen to the story - comprehension, interpretation and recall of oral language.

#13: Think it Through - problem-solving ability.

French Comprehension Test, Primer: Barik (1977).

The French Comprehension Test is designed to measure French comprehension skills of children completing the kindergarten year of a half-day program of total French immersion for children for whom French is not their native language.

- Raw score and percentiles.

Peabody Picture Vocabulary Test, Form B: Dunn (1965).

- receptive vocabulary measure
- mental age and IQ scores.

Wide Range Achievement Test (WRAT): Jastak and Jastak (1965).

- reading, spelling and arithmetic grade scores and percentiles.

Knowledge of Numbers and Letters in French

The children were required to name in French the 13 letters of the Wide Range Achievement Test reading subtest, to count the 15 dots and identify the five numbers from the Arithmetic subtest in French. The number of letters correctly named and the number of dots counted and numbers named correctly were recorded.

Tactual Performance Test: Trites (1977).

This is a measure of psychomotor problem-solving ability, performed under blindfold conditions, during which blocks of varying sizes and shapes are placed into respective spaces on a formboard. The task is performed in three trials: first, with the dominant hand, then with the non-dominant hand, and finally with both hands together. The length of time required to perform the task and the number of blocks correctly placed are recorded for each trial. Following completion of the task, the child is asked to draw the formboard and the blocks. The number of blocks remembered (memory component) and the number of blocks located correctly (spatial component) are recorded.

Picture-naming (French)

The child is asked to name in French, as quickly as possible, 20 black and white pictures laid out in five horizontal rows. The time required to complete this task and the number of pictures incorrectly named are recorded.

Word Segmentation

Adapted from Fox and Routh (1975).

The child is required to segment words into syllables or other units smaller than the words given. The words are presented orally and the child's spoken response is recorded. Sixteen bisyllabic words are used (8 from Fox and Routh (1975) and 8 of similar structure). The number of words segmented at correct syllable boundaries and the total number of words segmented into units smaller than the words are recorded.

Renfrew Action Picture Test: Renfrew (1971).

Expressive language measure: information and grammar scores based upon the child's verbal descriptions of nine pictures.

ii) Rating Scales

In addition to the psychometric measures, the examiner, teachers and parents completed the rating scales described below:

Test Behavior Observation Guide (Observer Checklist): Atwell, Orpet and Meyers (1971).

Following the individual testing session, the examiner rated the children's behavior during

testing on ten nine-point scales. (See Appendix 1).

Conners Teacher Questionnaire: Conners (1969).

The teachers rated each child on 39 items related to classroom behavior, group participation and attitude toward authority. These ratings yield percentage scores reflecting conduct problems, inattentive-passive behavior, tension-anxiety and hyperactivity. This questionnaire was available in English and French to accommodate the teacher's preference. (See Appendix 2).

Teacher Ratings

The teachers rated each child in terms of his comprehension of French, oral skills in French, and his present functioning level. Information concerning school difficulties during the current year, anticipated future difficulties, special help required and recommendations for future enrolment in French immersion were also obtained. Forms were available in English and French to accommodate the teacher's preference. (See Appendix 3).

Parents' Ratings

The parents submitted information concerning their child's progress and adjustment in French immersion. Problems encountered or special help required were described. Information regarding parents' concerns about the program and reasons for continuing or discontinuing their child in the program was collected. (See Appendix 4).

For the children enrolled in the bilingual program of the Ottawa Separate School Board, the parents' questionnaire was modified slightly in order to ascertain reasons for selection of this program. (See Appendix 4).

Two versions of the parent questionnaire were developed for the children attending the regular English kindergarten program. The first version was given to parents who had never enrolled their child in French immersion and included questions regarding the basis for this choice. (See Appendix 4). The second version was given to parents who had withdrawn their child from the French immersion program during the course of the year, and included questions concerning the reasons for this decision. (See Appendix 4).

Statistical Analysis

Responses to open-ended questions on the Teacher and Parents' Rating Scales, for example, reasons for future enrolment in French immersion, were categorized and coded in terms of these categories.

The test and rating scale data were combined with questionnaire and test data from the Early Identification Assessment Battery collected in the previous year (Trites and Price, 1978). Statistical analyses were conducted using the Statistical Package for the Social Sciences, Second Edition (Nie, Hull, Jenkins, Steinbrenner and Bent, 1975).

RESULTS

The results are divided into two main sections. First, analyses involving children in three different five-year-old kindergarten programs are presented. These children were divided into four groups on the basis of the five-year-old kindergarten programs in which they were involved. In the second section, only the children who were in five-year-old French immersion kindergarten in the Spring of 1978 were involved in the analyses.

Comparison of Four Kindergarten Enrolment Groups

Children who were enrolled in French immersion kindergarten were compared with children who were enrolled in a regular English kindergarten, to children who had transferred from a French immersion kindergarten to the English program (Transfers), and to children who were enrolled in a bilingual kindergarten program. One child who had been enrolled in a grade one French immersion program, and a child who had been enrolled in a grade one English program, were excluded from the comparisons.

These four kindergarten enrolment groups were compared in terms of descriptive information, information from the Biographical and Background Information Questionnaire distributed at the end of four-year-old kindergarten (Trites and Price, 1978), Parents' Ratings at the end of five-year-old kindergarten, ratings by both the four-year-old kindergarten teachers and the five-year-old kindergarten teachers, and performance on measures of the Early Identification Assessment Battery administered in the Spring of 1977 (Trites and Price, 1978) and on the Kindergarten Follow-up Assessment Battery administered in the Spring of 1978.

Descriptive Information

Descriptive information in terms of sex, hand dominance, age and the test-retest interval for the four groups are presented in Table 2. Chi-square analyses (SPSS SUBPROGRAM CROSSTABS, Nie et al., 1975) indicated that there were no significant differences in the sex composition or in the distribution of right-handers and left-handers in these groups. One-way analyses of variance (SPSS SUBPROGRAM ONEWAY, Nie et al., 1975) did not reveal any significant differences in age or in the test-retest interval for these groups.

Biographical and Background Information Questionnaire

A Biographical and Background Information Questionnaire (See Appendix 5) was completed by the parents of these children in the Spring of 1977 when they were enrolled in a four-year-old kindergarten program. This questionnaire was concerned with characteristics of the children, of their parents and of their homes. The factors assessed included age, sex, hand dominance, preschool experience, socio-economic status, number of books in the home, languages in the home, parental attitudes towards learning French, parents' reasons for choosing the French immersion program for five-year-old

TABLE 2

Sex, hand dominance, age and test-retest interval comparisons of the four kindergarten enrolment groups.

	SEX				HAND DOMINANCE				AGE		TEST-RETEST INTERVAL	
	Males		Females		Right		Left					
	#	%	#	%	#	%	#	%	X	SD	X	SD
French immersion kindergarten (n = 159)	75	47.2	84	52.8	146	91.8	13	8.2	5.85 years	0.55	0.94 years	0.48
English kindergarten (n = 11)	8	72.7	3	27.3	8	72.7	3	27.3	5.91 years	0.22	0.96 years	0.14
Transfers (n = 6)	3	50.0	3	50.0	5	83.3	1	16.7	5.69 years	0.38	1.00 years	0.05
Bilingual kindergarten (n = 6)	3	50.0	3	50.0	5	83.3	1	16.7	5.86 years	0.31	1.14 years	0.07
Statistical analysis	$Chi^2 = 2.70$ (df = 3)				$Chi^2 = 4.87$ (df = 3)				F Ratio = 0.221 (df = 3,178)		F Ratio = 0.393 (df = 3,178)	

kindergarten and characteristics parents considered to be important for success in French immersion. In the report of the assessment at the four-year old kindergarten level (Trites and Price, 1978), parents' responses to this questionnaire were examined in terms of comparisons between families choosing French immersion enrolment versus those choosing the English program for five-year-old kindergarten. In the present study, the four kindergarten enrolment groups were compared on the variables of the Biographical and Background Information Questionnaire.

Socio-economic Status: Socio-economic status (SES) was determined by assigning socio-economic index numbers to the occupation of the parents (Blishen and McRoberts, 1976). If both parents were employed, the father's SES index was taken to be the family SES if it was higher than the mother's SES index number. However, if the mother's SES index was higher than the father's, the average of these two indices was calculated to determine the family's SES. The mean SES index numbers, standard deviations and results of one-way analyses of variance (SPSS SUBPROGRAM ONEWAY, Nie et al., 1975) comparing the four kindergarten enrolment groups are presented in Table 3. There was a significant difference among the

TABLE 3

Means, standard deviations and F Ratios for SES comparisons of the four kindergarten enrolment groups.

	SES					
	Father		Mother		Family[1.]	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
[1]French immersion kindergarten	62.0	11.8	53.4	11.3	62.1	11.1
[2]English kindergarten	53.0	18.2	45.8	10.2	51.1	15.7
[3]Transfers	62.0	10.9	44.7	15.0	60.4	10.5
[4]Bilingual kindergarten	59.9	9.6	53.0	8.8	59.9	9.6
Statistical Analysis	F Ratio = 1.47 (df = 3,164)		F Ratio = 1.59 (df = 3,66)		F Ratio = 3.28* (df = 3,172)	

* $p < .05$

1. Scheffé's multiple comparisons indicated a significant difference between groups 1 and 2.

groups in terms of the family index of SES. Scheffé's test was computed to locate the significant differences among the groups. This test indicated that the children enrolled in the French immersion kindergarten program came from higher SES families than the children enrolled in the English kindergarten program. Children enrolled in French immersion tended to come from families with an SES index in the lower upper class range compared with the upper middle class range for English program enrolments.

Preschool Experience: The extent of preschool experience in Nursery School and Day Care Centres was assessed. The number and percent of children in each group who attended Nursery School or Day Care Centres, half days or full days, or who did not attend these programs are presented in Table 4. Chi-square analyses (SPSS SUBPROGRAM CROSSTABS, Nie et al., 1975) did not reveal any significant differences among the groups in terms of attendance at Nursery School and Day Care Centres. However, it is interesting to note that fewer children in the English kindergarten and in the transfer group attended Nursery Schools compared with the children in the French immersion and bilingual kindergarten programs.

TABLE 4

Chi-square analyses comparing the four kindergarten enrolment groups in terms of attendance at Nursery School and Day Care Centres.

	French Immersion Kindergarten		English Kindergarten		Transfers		Bilingual Program	
	#	%	#	%	#	%	#	%
Nursery School attendance								
Did not attend	76	47.8	8	72.7	6	100.0	2	33.3
Attended half days	79	49.7	3	27.3	0	0	4	66.7
Attended full days	4	2.5	0	0	0	0	0	0
Statistical Analysis	$Chi^2 = 9.58$ (df = 6)							
Day Care Attendance								
Did not attend	141	88.7	8	72.7	4	66.7	5	83.3
Attended half days	4	2.5	0	0	0	0	0	0
Attended full days	14	8.8	3	27.3	2	33.3	1	16.7
Statistical Analysis	$Chi^2 = 7.43$ (df = 6)							

Siblings in French Immersion: The four kindergarten enrolment groups were also compared in terms of the number of children who had siblings enrolled in French immersion programs. The results of the Chi-square analyses are presented in Table 5. Significant differences were found. One-sample Chi-square tests (SPSS SUBPROGRAM NPAR, Nie and Hull, 1977) were computed for each response category to determine group differences, but no significant differences were found. Thus, there was a nonsignificant trend whereby more children enrolled in the French immersion kindergarten program tended to have siblings who were also enrolled in French immersion.

Of the siblings who did attend French immersion programs, there were no significant differences among the groups in terms of the number of children encountering difficulties in these programs. These results are presented in the bottom half of Table 5 and indicate that most of the siblings did not encounter difficulty in the program.

Parental Attitudes and Advantaged Home Background Variables: Chi-square analyses of questions relating to parental attitudes and advantaged home background variables did not reveal significant differences among the four kindergarten enrolment groups. Thus, there

TABLE 5

Chi-square analyses comparing the four kindergarten enrolment groups in terms of siblings enrolled in French immersion.

	French Immersion Kindergarten		English Kindergarten		Transfers		Bilingual Program	
	#	%	#	%	#	%	#	%
Siblings enrolled in French immersion?								
Yes	72	45.3	2	18.2	0	0	1	16.7
No	87	54.7	9	81.8	6	100.0	5	83.3
Statistical Analysis	$Chi^2 = 9.19^*$ (df = 3)							
Siblings difficulty in French immersion?								
Yes	8	11.1	1	50.0			0	0
No	64	88.9	1	50.0			1	100.0
Statistical Analysis	$Chi^2 = 2.93$ (df = 2)							

* $p < .05$

were no significant differences in terms of their parents' desire to learn to speak French, parents having taken French courses, parents who speak French, and exposure to French in the home or neighbourhood. Nor were the differences in terms of advantaged home backgrounds determined by the number of books in the home and the frequency of reading to the children.

Reasons for Choosing French Immersion Kindergarten: The reasons for deciding to enrol children in primary French immersion were classified in twelve categories and up to three responses were coded for each case. Table 6 presents the number of times each reason was cited by parents who enrolled their child in French immersion, by parents who enrolled their child in the English program, by parents who transferred their children to the English program, and by parents who enrolled their child in a bilingual program. The most frequently cited reason was that French immersion was an opportunity to learn to speak French (#1 - 33%), followed by the view that younger children learned a second language easily (#2 - 19%). The general betterment of education through learning any second language was also a prevalent reason (#12 - 14%). Increased employment opportunities was

TABLE 6

Frequency of occurrence of twelve categories of parents' reasons for enrolling children in French immersion.

Reason for Enrolment in French immersion	French Immersion Kindergarten	English Kindergarten	Transfers	Bilingual Kindergarten	Total	Total %
1. Opportunity to learn to speak French, to have proficiency in two official Canadian languages.	94	4	4	3	105	33.3
2. Most painless and efficient way to teach a child a language, the younger the better for teaching a child to speak a new language comfortably and well.	52	4	3	2	61	19.4
3. Very positive attitude of child (interested, eager, enthusiastic).	5	0	1	0	6	1.9
4. Availability of program in local school (no English Kindergarten).	3	0	0	0	3	1.0
5. Increase future employment opportunities.	33	2	0	2	37	11.7
6. Increase understanding of other cultural groups.	21	1	0	3	25	7.9
7. Family is French Canadian or French is language of one parent.	1	0	0	1	2	0.6
8. Child enjoys school and is having no problems.	1	1	0	0	2	0.6
9. Program is a challenge and should help prevent boredom in the second kindergarten year.	10	0	0	0	10	3.2
10. Communication enrichment (all language skills will be improved).	7	1	1	0	9	2.9
11. Good experience with French immersion of siblings or friends.	9	1	0	1	11	3.5
12. General betterment of education (any second language is of value).	40	3	1	0	44	14.0

also cited frequently (#5 - 12%). These findings were similar to those reported in the previous year of the study (Trites and Price, 1978).

Parents' Ratings

This questionnaire was developed to assess the parents' views with regard to the various five-year-old kindergarten programs and with regard to their child's progress, and to gather background information. Four versions of the questionnaire (see Appendix 4) were developed, one for each of the four kindergarten enrolment groups, i.e. children who were in French immersion five-year-old kindergarten in the Spring of 1978, children who were in an English five-year-old kindergarten program, children who had transferred from a French immersion kindergarten to an English kindergarten program during the 1977-78 school year (Transfers), and children enrolled in a bilingual kindergarten program.

The response rate to these questionnaires was good, with 170 to 184 questionnaires returned (92%). For the children enrolled in the French immersion program, 94% of the Parents' Ratings were received. Ninety-one percent of the parents of children who had never been in the French immersion program returned the questionnaires.

Eighty-three percent of the questionnaires were returned for children who had transferred from the French immersion program to the English program during the school year. Eighty-six percent of the questionnaires were received for the children in the bilingual program.

Reasons for choosing the English Kindergarten Program: Parents of the 184 children followed-up at the end of the five-year-old kindergarten program had indicated their intention to enrol their children in the French immersion program in September of 1978. Therefore, it was of interest to determine why 11 children were enrolled in the English program in the beginning of September of 1978. The parents of seven of these children specified their reasons for choosing the English program rather than the French immersion program. Four parents felt that their child was not ready for the French immersion kindergarten program. One parent felt that her child had poor concentration, and therefore, would have difficulty coping with French immersion. Another parent expressed concern that the child might encounter difficulty and not be able to receive help at home. Two parents objected to bussing and French immersion was not available in the neighbourhood school. Thus, although these parents had initially intended to enrol their children in the five-year-old

French immersion kindergarten program, they felt that the children were not ready for the program or that it was not conveniently available.

Reasons for Transferring to the English Kindergarten Program: For the six children who were transferred to the English program from the French immersion five-year-old kindergarten program during the 1977-78 school year, the reasons for the transfer were available for five of the six children who transferred. Two parents expressed dissatisfaction with the lack of creativity, play materials and readiness work in the French immersion program. Two parents chose to withdraw the child so that he could attend a neighbourhood school, rather than be bussed. One child experienced hearing difficulties and was therefore transferred to the English program.

Reasons for Choosing the Bilingual Kindergarten Program: Parents of children enrolled in the bilingual program were asked to express their reasons for choosing the bilingual program over the French immersion program. Responses were available for the parents of six of the seven children enrolled in the bilingual program. Two parents chose the bilingual program because it was located in a school closer to the home. Two parents preferred the availability of English classes in addition to the

half day of French. They felt that this provided greater support for the child. These parents also expressed preference for the Separate School system over the Public school system, and preference for the bilingual program in which every child participated, therefore, not confining it to what they considered to be an elite group.

Program Choices for September of 1978: Parents were asked to indicate the school program in which they intended to enrol their child in September of 1978. Parents indicated four possible choices: French immersion grade one, English grade one, bilingual grade one or repeating French immersion kindergarten. The number and percent of parents choosing these programs are presented in Table 7 for the four kindergarten enrolment groups. As can be seen from this table, for children in French immersion in the Spring of 1978, 146 parents specified their enrolment plans for the 1978-79 school year. One hundred and thirty-two (90.4%) were to be enrolled in the grade one French immersion program. Parents of 13 children (9%) intended to enrol them in a regular English program for the 1978-79 school year. It was indicated that one child would repeat French immersion kindergarten. For the 13 children who were to be transferred to the English

TABLE 7

Parental choice of school programs for September, 1978.

Program for Sept. 1978 [1]	French Immersion Kindergarten		English Kindergarten		Transfers		Bilingual Program	
	#	%	#	%	#	%	#	%
French immersion grade 1	132	90.4	0	0	1	25.0	2	40.0
English grade 1	13	8.9	10	100.0	3	75.0	0	0
Bilingual grade 1	0	0	0	0	0	0	3	60.0
Repeat French immersion kindergarten	1	0.7	0	0	0	0	0	0

1. Chi^2 analysis was not computed because many categories contained no responses.

program, few parents indicated their reasons for this decision. In one case, the family was moving; one child was encountering academic difficulties, which prompted the change in program; and three children were experiencing social-emotional problems.

Parents of 10 of the 11 children who had been enrolled in the English five-year-old kindergarten program specified their choice of school program for 1978-79. All of these parents intended to enrol their children in an English Grade one program.

The parents of three children who had transferred to the English program during kindergarten intended to enrol their children in a regular Grade one English program. One parent who had transferred her child to English because a closer school location was required, intended to enrol the child in French immersion in September of 1978. Another parent was undecided with regard to the school program and was awaiting a doctor's recommendation with regard to hearing difficulties. The program choice for the remaining child was not available.

Parents of five children enrolled in the bilingual program indicated their plans for the 1978-79 school year. Three parents intended to enrol their child in the bilingual program for Grade one; one child was to be enrolled in a French school; one child was to

be enrolled in a French immersion grade one program in the Public school system; and one parent was considering the French immersion program but was as yet undecided.

Possibility of Future Enrolment in French Immersion: All parents were asked if they would enrol their child in French immersion in the future. The responses of the parents of the four kindergarten enrolment groups are presented in Table 8. As can be seen from this table, the majority of parents intended to enrol their children in French immersion at some time, with the exception of the parents who had enrolled their children in the English five-year-old kindergarten program in September of 1978. However, even in this group, 40% of the parents expressed the possibility of future enrolment in French immersion for their child. These responses indicate a positive attitude towards the goal of learning French during the childhood education process.

Concerns about the French Immersion Kindergarten Program: Parents of children who were enrolled in the French immersion program at the end of the five-year-old kindergarten year, and of children who had transferred to the English program during the year, were asked

TABLE 8

Parental decisions regarding future enrolment in French immersion.

	French Immersion Kindergarten		English Kindergarten		Transfers		Bilingual Program	
	#	%	#	%	#	%	#	%
Do parents intend to enrol child in French immersion in the future?								
Yes	131	89.1	4	40.0	4	80.0	5	83.3
No	12	8.2	4	40.0	0	0	0	0
Undecided	4	2.7	2	20.0	1	20.0	1	16.7
Statistical Analysis	$Chi^2 = 4.86$ (df = 6)							

to specify any concerns that they had with regard to the five-year-old French immersion kindergarten program. The concerns expressed by these parents were classified in eight categories, and up to three responses were coded for each case. The frequency of responses for each category of concerns about the French immersion program are presented for these two groups in Table 9.

TABLE 9

Frequency of occurrence of eight categories of concerns about the French immersion kindergarten program.

	French Immersion Kindergarten	Transfers	Total	Total %
1. More structured than English program; fewer field trips, educational materials, etc.	6	1	7	12.5
2. Quality of teaching.	9	1	10	17.9
3. Lack of grounding in English.	8	0	8	14.3
4. Lack of information re effects of program	2	0	2	3.6
5. Additional stress on child.	6	1	7	12.5
6. Not enough French spoken.	2	0	2	3.6
7. Program aspects such as lack of social participation, not enough emphasis on certain skills, etc.	15	2	17	30.4
8. Class size too large.	3	0	3	5.4

As can be seen from this table, the most frequently cited concern about this program was related to aspects such as lack of social participation and lack of emphasis on certain skills (30%). Parents were also concerned about the quality of teaching (18%). Other concerns expressed by the parents were a lack of grounding in English (14%), characteristics of the program involving greater structure than the English program, fewer educational materials and field trips, and so on (13%), and the additional stress on the child related to the second language (13%). However, it must be noted that the majority of parents did not express any concerns about the five-year-old French immersion kindergarten program (n = 103).

Parental Reports Regarding the Progress of their Children in Five-year-old Kindergarten: With regard to children who remained enrolled in the French immersion kindergarten program for the 1977-78 school year, parents ratings were available for 149 of the 159 children. Ninety-two percent of the parents were satisfied with their child's progress in learning to speak French in the French immersion program, while 8% were not satisfied.

Parents were satisfied with their child's development of readiness for reading, spelling and arithmetic for 87% of the children, and were not satisfied for 13%. With regard to the development of social skills, 95% of the children developed satisfactorily according to the parents, while 5% were not progressing well in this area. Thirty-five children (24%) were reported to have experienced difficulty in the French immersion kindergarten program. Eleven percent of the children required special help and parents expected that the child would require special help in the 1978-79 school year for 11% of these children. Parents were undecided regarding their child's need for special help during the 1978-79 school program for 36% of the children.

Examination of the questionnaire responses available for 10 of the 11 children who were enrolled in the English kindergarten program in 1977-78, indicated that seven parents were satisfied with their children's progress in terms of readiness skills and eight parents were satisfied with the development of social skills. Four parents indicated that their children had encountered difficulty in the English five-year-old kindergarten program. All but one child was reported to have liked the English kindergarten program. Only two children

were reported to have required special help during the 1977-78 school year. Parents of three children expected that their children would require special help during the 1978-79 school year.

Parents who transferred their children to the English program from the five-year-old French immersion kindergarten program indicated that three children had encountered difficulty in French immersion and that two children had not had difficulty. Parents of three children were satisfied with their child's progress in learning French while in French immersion, two parents were satisfied with their child's progress in readiness while in French immersion, and the parents of two children were satisfied with their progress in social skills while in French immersion. Parents indicated that all of their children liked the French immersion program. Of the children who transferred, two required special help in their kindergarten program. Only one parent felt that her child would require special help during the 1978-79 school year.

Responses to the questionnaire were available for six of the seven children in the bilingual program. All parents expressed satisfaction with their child's progress in learning to speak French while in this program, with

the child's readiness skills and with the child's social skills. None of the children were reported to have experienced difficulty in the bilingual program. All of the children liked this program. None of the children in the bilingual program required special help during the five-year-old kindergarten year. However, parents of three children felt that their children might require special help during the 1978-79 school year.

Exposure to French: Chi-square analyses indicated that the four kindergarten enrolment groups did not differ significantly in terms of hearing French spoken in the home or in the neighbourhood, frequency of watching French television programs, the frequency of hearing French radio programs and/or French records, or the frequency with which the parents read to the child in French.

Four-Year-Old Kindergarten Teacher Ratings

Teacher ratings completed by the four-year-old kindergarten teachers of the 200 children followed-up at the end of the five-year-old kindergarten (Trites and Price, 1978) were available for 181 children (91%). This questionnaire is included in Appendix 6.

Ability, Social Maturation and Motivation: Four-year-old kindergarten teachers rated the children as Below average, Average or Above average in terms of ability, social maturation and motivation. Chi-square analyses comparing the four kindergarten enrolment groups on these variables are presented in Table 10. The Chi-square analysis of ratings of ability indicated significant differences. One-sample Chi-square tests failed to reveal any differences among the groups on ratings of ability. Although very few children received Below average ratings of ability, 33% of the children who were transferred to English kindergarten received the lowest ratings. Chi-square analyses of the ratings in terms of social maturation and motivation did not reveal significant differences among the groups.

Predictions re Difficulty in School: The four-year-old kindergarten teachers were also asked whether or not the children were likely to encounter difficulty in school. Chi-square analyses did not indicate significant differences among the four kindergarten enrolment groups in terms of these ratings by the teachers. Four-year-old kindergarten teachers expected that 16% of the children who were enrolled in French immersion kindergarten would encounter difficulty, 27% of the

TABLE 10

Chi-square analyses of four-year-old kindergarten teachers' ratings of Ability, Social Maturation and Motivation.

Four-year-old kindergarten Teacher RATINGS		French immersion Kindergarten		English Kindergarten		Transfers		Bilingual Kindergarten		Chi^2	df
		#	%	#	%	#	%	#	%	ns	
ABILITY	Below average	3	1.9	0	0	2	33.3	0	0		
	Average	78	49.7	8	72.7	2	33.3	5	83.3	2.44	3
	Above average	76	48.4	8	27.3	2	33.3	1	16.7	2.82	3
	Statistical Analysis	$Chi^2 = 26.07^{**}$ (df = 6)									
SOCIAL MATURATION	Below average	33	20.9	4	36.4	2	33.3	0	0		
	Average	90	57.0	5	45.5	3	50.0	6	100		
	Above average	35	22.2	2	18.2	1	1.7	0	0		
	Statistical Analysis	$Chi^2 = 6.52$ (df = 6)									
MOTIVATION	Below average	12	7.7	0	0	0	0	0	0		
	Average	98	62.8	9	81.8	5	83.3	6	100		
	Above average	46	29.5	2	18.2	1	16.7	0	0		
	Statistical Analysis	$Chi^2 = 4.03$ (df = 6)									

** $p < .01$

children who were enrolled in the English program would encounter difficulty, 33% of the children who transferred to the English kindergarten program were expected to encounter difficulty while none of the children enrolled in the bilingual kindergarten were expected to have difficulty in school.

Advising French Immersion Enrolment: The four-year-old kindergarten teachers' advice with regard to French immersion enrolment for five-year-old kindergarten is presented in Table 11 for the four kindergarten enrolment

TABLE 11

Chi-square analysis comparing the four kindergarten enrolment groups in terms of four-year-old kindergarten teachers' advice re French immersion enrolment.

	French immersion Kdg.		English Kindergarten		Transfers		Bilingual Kindergarten	
	#	%	#	%	#	%	#	%
French immersion								
Advised	95	72.0	6	60.0	4	66.7	3	60.0
Not advised	31	23.5	4	40.0	2	33.3	1	20.0
Maybe	6	4.5	0	0	0	0	1	20.0
Statistical Analysis	$Chi^2 = 4.86$ (df=6)							

groups. A Chi-square analysis did not reveal significant differences on this measure. However, it is interesting to note that French immersion was not advised for a greater proportion of children whose parents changed their choice of five-year-old French immersion kindergarten and enrolled their children in the English kindergarten, and for children who were transferred to the English program.

Five-year-old Kindergarten Teacher Ratings

One hundred and seventy-six teachers returned these rating scales yielding a response rate of approximately 96%. Five-year-old kindergarten teachers rated the children in terms of their functioning level, their comprehension of French, and their oral skills in French. The results of Chi-square analyses of the ratings on these variables are presented in Table 12.

Teacher Ratings of Functioning Level: Teachers assessed the child's functioning level as early kindergarten, mid kindergarten or ready for grade one. There were no significant differences among the four kindergarten enrolment groups in terms of functioning levels (see Table 12). However, it is interesting to note that although these ratings were completed in May and

TABLE 12

Chi-square analyses comparing the four kindergarten enrolment groups in terms of five-year-old kindergarten teacher ratings of Functioning Level, Comprehension of French and French Oral Skills.

	French Immersion Kindergarten		English Kindergarten		Transfers		Bilingual Program	
	#	%	#	%	#	%	#	%
Functioning Level								
Early kindergarten	11	7.1	1	9.1	0	0	0	0.0
Mid kindergarten	47	30.3	2	18.2	2	40.0	0	0.0
Ready for grade 1	97	62.6	8	72.7	3	60.0	5	100.0
Statistical Analysis	$Chi^2 = 4.18$ (df = 6)							
Comprehension of French								
Below average	22	14.2	3	37.5	0	0	0	0
Average	78	50.3	3	37.5	2	100.0	1	20.0
Above average	55	35.5	2	25.0	0	0	4	80.0
Statistical Analysis	$Chi^2 = 9.75$ (df = 6)							
French Oral Skills								
Below average	28	18.1	3	37.5	0	0	0	0
Average	76	49.0	2	25.0	2	100	1	20.0
Above average	51	32.9	3	37.5	0	0	4	80.0
Statistical Analysis	$Chi^2 = 9.65$ (df = 6)							

June, 37% of the children in the French immersion kindergarten, 27% of the children in the English kindergarten, and 40% of the children who had transferred from the French immersion program to an English program were rated as functioning at the early to mid kindergarten level.

Teacher Ratings of Comprehension of French: All teachers were asked to rate the children in terms of their comprehension of French as Below average, Average or Above average. Thus, teachers of the English program were asked to judge this skill for the children who were enrolled in the English kindergarten and for children who had been transferred to this program during the year. The Chi-square analysis of the responses to this question did not reveal significant differences among the groups (see Table 12). However, it is interesting to observe the ratings given to children enrolled in the French immersion kindergarten and in the bilingual program. Fourteen percent of the children in the French immersion kindergarten were rated as being Below average in their comprehension of French, while no children in the bilingual program were given Below average ratings. In addition, 36% of the children in the French immersion kindergarten were given Above average ratings while a larger proportion (80%) of children

enrolled in the bilingual program were given Above average ratings. Thus, on the basis of five children, this suggests that children in the bilingual program are making greater progress in the comprehension of French than those in the French immersion kindergarten. The large discrepancy in the number of children assessed in these two programs calls for caution when comparing these groups.

Teacher Ratings of Oral Skills in French: Teachers also rated the children as Below Average, Average or Above average in terms of their oral skills in French. Again, the children in the English kindergarten and the children who had transferred to the English program were rated by teachers in this program. Chi-square analyses of the ratings given to the children in the four kindergarten enrolment groups failed to reveal significant group differences (see Table 12). The distribution of Below average, Average and Above average ratings among the children enrolled in the French immersion kindergarten and the children enrolled in the bilingual program were quite similar to the distribution of ratings obtained in terms of the comprehension of French. Again, the children enrolled in the French immersion kindergarten had a greater proportion of

children receiving Below average ratings when compared with five children enrolled in the bilingual program. Again, caution is warranted when comparing groups which differ greatly in size.

Five-Year-Old Kindergarten Teachers' Recommendation re French Immersion Enrolment: The five-year-old kindergarten teachers were asked whether or not they would recommend future French immersion enrolment for the child. The results of the Chi-square analysis of the response of the teachers of the four kindergarten enrolment groups are presented in Table 13. The Chi-square analysis was significant; however, the large proportion of cells with no responses demands caution in interpreting the significance of this finding and no further statistical analyses were computed. Teachers of children who were transferred from the French immersion program to the English program during their five-year-old kindergarten school year did not recommend French immersion enrolment for five of these children (this rating was not available for the sixth child). Teachers of children enrolled in the bilingual program recommended French immersion enrolment for five of these children (rating on this variable was not available for the sixth child). There was greater variability in the responses of teachers

TABLE 13

Chi-square analysis comparing the four kindergarten enrolment groups in terms of the five-year-old kindergarten teachers' recommendation re French immersion enrolment.

	French Immersion Kindergarten		English Kindergarten		Transfers		Bilingual Program	
	#	%	#	%	#	%	#	%
Recommendation re French immersion enrolment:								
Yes	133	86.9	2	25.0	0	0	5	100
No	19	12.4	6	75.0	5	100	0	0
Maybe	1	0.7	0	0.0	0	0	0	0
Statistical Analysis [1]	$Chi^2 = 45.65^{**}$ (df = 6)							

** $p < .01$

1. One sample Chi-square analyses were not computed because many cells contained no responses.

of children enrolled in the French immersion program and in the regular English program. Teachers of children in the English program did not advise French immersion enrolment for 75% of the children. For children enrolled in French immersion kindergarten, teachers did not recommend future French immersion enrolment for 19 (12%) of these children. One teacher was not able to decide upon the advisability of French immersion enrolment for one child. Thus, of 153 children in French immersion kindergarten for whom teachers' recommendations about future French immersion enrolment were available, it was not recommended for 19 children. One might assume that these are the children who are encountering substantial difficulty in the program. If one also considers the six children who transferred to the English program during the five-year-old kindergarten year as encountering difficulty in the program, then, approximately 16% of the 184 children followed were found to have encountered difficulty in the French immersion program.

Teachers' Reasons for Recommending French immersion Enrolment: Five-year-old kindergarten teachers' reasons for recommending French immersion enrolment were classified in nine categories. A maximum of

three reasons were coded for each case. The frequency of occurrence of these reasons when French immersion was advised for the French immersion enrolment group and the English program group are presented in Table 14.

TABLE 14

Frequency of occurrence of nine categories of reasons cited by five-year-old kindergarten teachers for recommending French immersion enrolment.

	French immersion Kindergarten	English Kindergarten	Total	Total %
1. Generally supportive home situation.	2	0	2	1.2
2. Good emotional/social adjustment (outgoing, confident, handles stress well).	3	0	3	1.8
3. Good tolerance (persistent).	2	0	2	1.2
4. Maturity (works independently, desire to learn).	20	2	22	13.4
5. Average to high ability, absence of any special problems.	59	1	60	36.6
6. Well-developed language skills.	24	0	24	14.6
7. Some French background (French spoken at home)	1	0	1	0.6
8. Contentment (happy in present classroom).	4	0	4	2.4
9. Child's attitude (good attitude toward learning).	46	0	46	28.0

The responses of the teachers of the bilingual program to this question were ambiguous with regard to whether they were recommending a French immersion program or a bilingual program. Therefore, their responses were not coded in this section. As can be seen from Table 14 the reason most frequently cited by teachers when advising French immersion enrolment was the presence of average to high ability and the absence of special problems such as coordination of perceptual problems. Teachers also gave high weight to the child's attitude, citing a good attitude towards learning as a frequent reason for advising French immersion enrolment. Well-developed language skills and the child's maturity level and ability to work independently were also cited frequently. These results are similar to those obtained in the first year of study (Trites and Price, 1978), where it was also found that teachers considered a child's general ability level most frequently when advising French immersion enrolment.

Teachers' Reasons for Not Recommending French immersion Enrolment: Teachers' reasons for not advising French immersion enrolment were classified in ten categories. A maximum of three reasons was coded for each case. The frequency of occurrence of these reasons cited by teachers is presented in Table 15. As can be seen from this table,

TABLE 15

Frequency of occurrence of ten categories of reasons cited by five-year-old kindergarten teachers for Not recommending French immersion enrolment.

	French Immersion Kindergarten	English Kindergarten	Transfers	Total	Total %
1. Poor emotional-social adjustment (needs security, not participating, lacks confidence.	1	1	0	2	4.9
2. Poor tolerance (easily frustrated, gives up easily, poor responses to stress and challenge).	2	0	0	2	9.9
3. Immaturity (poor self-motivation).	7	0	2	9	22.0
4. Below average ability.	7	1	0	8	19.5
5. Poorly developed language skills (not able to cope in French and/or English, actual speech problems).	3	1	0	4	9.8
6. Short attention span (poor auditory skills, poor application).	5	1	0	6	14.6
7. Physical or medical problems.	1	0	0	1	2.4
8. Hyperactivity and restlessness.	1	0	0	1	2.4
9. No French immersion available.	0	2	1	3	7.3
10. Poor attitude toward learning.	4	0	1	5	12.2

immaturity and poor self-motivation was the most frequently cited reason for advising against French immersion enrolment. Below average ability was the second most frequently cited reason, followed by short attention span. Thus, while teachers considered a child's ability level to be important when advising against French immersion enrolment, maturity level was considered to be highly important as well. These findings are similar to those of the first year of study (Trites and Price, 1978), where teachers were found to emphasize the child's social and emotional development when advising against French immersion and to consider the child's level of ability to be of greatest importance when making the decision to advise French immersion enrolment.

Teacher Reports of Difficulty in Kindergarten: Teachers were asked to indicate whether or not the child had had any particular difficulty in school during his five-year-old kindergarten year. The results of the Chi-square analysis of teachers responses to this question are presented in Table 16. There were no significant differences among the groups in terms of the proportion of children experiencing difficulty. Half of the children in the English kindergarten and half of the

TABLE 16

Chi-square analyses comparing the four kindergarten enrolment groups in terms of teacher reports of difficulty in kindergarten.

	French Immersion Kindergarten		English Kindergarten		Transfers		Bilingual Program	
	#	%	#	%	#	%	#	%
Difficulty in school this year?								
Yes	56	36.1	5	50.0	3	50.0	0	0
No	99	63.9	5	50.0	3	50.0	5	100
Statistical Analysis	$Chi^2 = 4.15$ (df = 3)							

children who had transferred to the English program from French immersion were reported to have encountered difficulty. None of the children in the bilingual program experienced difficulties. Approximately one third of the children in the French immersion kindergarten program had experienced some difficulty.

Reasons for Difficulties Encountered in Kindergarten: Further information was obtained in terms of the reasons for the difficulties encountered. The types of difficulties were classified into eight categories. A maximum of two responses was coded for each case. The frequency of occurrence of the various problem areas is presented in Table 17 for children enrolled in French immersion, for children enrolled in English kindergarten, and for children who had transferred to English kindergarten from the French immersion program. Immaturity, emotional-social adjustment problems and special learning problems were cited with equal frequency as reasons for difficulties encountered in five-year-old kindergarten. The combination of immaturity and emotional-social adjustment problems indicates that the child's level of emotional and social adjustment is an important factor influencing progress in the five-year-old kindergarten program as judged by kindergarten teachers.

TABLE 17

Frequency of occurrence of nine reasons for difficulties encountered in kindergarten.

	French Immersion Kdg.	English Kindergarten	Transfers	Total	Total %
Below average ability	2			2	3.0
Language difficulty	7		1	8	12.1
Auditory difficulty	3		1	4	6.1
Immaturity	12		1	13	19.7
Poor concentration	10			10	15.1
Emotional-social adjustment problems	10	3		13	19.7
Special learning problem	10	2	1	13	19.7
Not motivated	2			2	3.0
Medical or physical problems			1	1	1.5

Special Help in Five-year-old Kindergarten: Teachers indicated whether or not children required special help during their five-year-old kindergarten program. The results of the Chi-square analysis of these responses are presented in Table 18. There were no significant

TABLE 18

Chi-square analysis comparing the four kindergarten enrolment groups in terms of special help received in five-year-old kindergarten.

	French Immersion Kindergarten		English Kindergarten		Transfers		Bilingual Program	
	#	%	#	%	#	%	#	%
Special help received during five-year-old kindergarten?								
Yes	42	27.3	2	18.2	3	50.0	0	0
No	112	72.7	9	81.8	3	50.0	5	100
Statistical Analysis	$Chi^2 = 3.92$ (df = 3)							

group differences in terms of the proportion of children receiving special help in the five-year-old kindergarten program. However, the group of children who had transferred to the regular English program from the French immersion program tended to have the highest proportion of children receiving special help (50%). Twenty-seven percent of children enrolled in French immersion kindergarten required special help while 18% of the children enrolled in English kindergarten received help. No children in the bilingual program were given special help.

Types of Special Help: The types of special help were classified into six categories, plus a category for unspecified individual help given by the teacher. The frequency of occurrence of the various types of special help is presented in Table 19. Of the children enrolled in French immersion kindergarten, six received speech training and five received auditory discrimination training. As can be seen from this table, teachers did not specify the types of individual help given for 54% of these responses. Thus, it was difficult to specify the detailed special help received by the children in five-year-old kindergarten as a result of the vagueness of the teachers' responses with regard to specific types of individual help given.

TABLE 19

Frequency of occurrence of various types of special help received during five-year-old kindergarten.

	French Immersion Kdg.	English Kdg.	Transfers	Total	Total %
Speech training	6			6	11.1
Auditory Discrimination training	5			5	9.3
Written work (printing practice, etc.)	2	1		3	5.6
Basic skills (numbers, letters, colour discrimination)	3	1		4	7.4
Spatial relationships	3	1		4	7.4
Behavior management (discipline, time on task, short attention span).	1			1	1.9
Individual help (details not specified).	24	2	3	29	53.7

Kindergarten Teachers' Expectations re Future Special Help: Teachers indicated whether or not they expected the child to require special help the following school year. Results of the Chi-square analysis of the responses are presented in Table 20. There

TABLE 20

Chi-square analysis comparing the four kindergarten enrolment groups in terms of teachers' expectations re Future special help.

	French Immersion Kindergarten		English Kindergarten		Transfers		Bilingual Program	
	#	%	#	%	#	%	#	%
Do you expect this child to require special help in school next year?								
Yes	38	25.2	4	36.4	2	33.3	0	0
No	111	73.5	7	63.6	3	50.0	5	100
Possibly	2	1.3	0	0	1	16.7	0	0
Statistical Analysis	$Chi^2 = 11.15$ (df = 6)							

were no significant group differences in the proportion of children expected to require special help. Teachers of children enrolled in a bilingual program did not expect that any of them would require special help during their next school year. Approximately one quarter to one-third of children enrolled in French immersion kindergarten, of children enrolled in English kindergarten and of children who had transferred to English kindergarten were expected to require special help in the following school year.

Types of Future Special Help: The types of help that the children were expected to require in the following school year are presented in Table 21. Again, the teachers specified that special individual help was likely to be required for 17 children, but the details were not provided. Auditory discrimination training was recommended for 10 children. Eight children were expected to require special help in spatial relationships, and seven children were expected to require help with the basic skills.

TABLE 21

Frequency of occurrence of various types of special help that children were expected to require the following school year.

	French Immersion Kdg.	English Kdg.	Transfers	Total	Total %
Speech training	5		1	6	10.0
Auditory discrimination training	10			10	16.7
Written work (printing, etc.)	5	1		6	10.0
Basic skills (letters, numbers, colour discrimination)	6		1	7	11.7
Phonics training	2			2	3.3
Spatial relationships	7		1	8	13.3
Social skills	3			3	5.0
Behavior management (discipline, time on task, short attention span).	1			1	1.7
Individual help (details not specified).	15	1	1	17	28.3

Early Identification Assessment Battery

One-way analyses of variance (SPSS SUBPROGRAM ONE-WAY, Nie et al., 1975) were computed to determine differences among the four kindergarten enrolment groups on the variables of the four-year-old kindergarten Early Identification Assessment battery (Trites and Price, 1978). Means, standard deviations and the results of Scheffé's multiple comparisons for the variables on which the one-way analyses of variance indicated significant differences are presented in Table 22. Although the overall F Ratio indicated significant differences on many of the variables, Scheffé's multiple comparisons were computed with a conservative error rate (error rate experimentwise = .05). Using this conservative approach, significant differences among the groups were found on six variables. On five of these measures, children who had transferred to an English program from the French immersion five-year-old kindergarten program had the lowest scores. This group scored significantly lower than all three other groups on the segmentation of words into parts. The transfers scored significantly lower than the children in French immersion and those in the bilingual program on one verbal subtest of the Wechsler Pre-School and Primary Scale of Intelligence (Sentences).

TABLE 22

Means, standard deviations, F Ratios and the results of Scheffé's for significant comparisons of the four kindergarten enrolment groups on measures of the Early Identification Assessment Battery.

		1) French Immersion Kdg.			2) English Kindergarten			3) Transfers			4) Bilingual Kindergarten			F Ratio[1]
		$\bar{X}$	SD	Sch[2]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	
WPPSI:	VIQ	119.5	12.1		107.8	8.2		110.3	9.1		124.0	16.2		4.65**
	FSIQ	119.8	11.6		109.6	7.2		111.0	7.2		123.5	13.0		4.03**
	Information	13.7	2.8		11.5	2.2		12.0	2.6		15.2	4.3		3.57*
	Arithmetic	13.0	2.4		11.2	1.8		11.3	1.8		14.2	3.0		3.24*
	Similarities	13.4	2.5		11.5	2.7		11.5	3.4		14.0	1.4		3.13*
	Sentences	10.4	2.9	3	8.8	2.8		6.8	2.5		11.8	2.3	3	4.52**
WRAT:	Reading grade	1.1	0.4	2	0.7	0.4		0.9	0.3		1.0	0.3		3.10*
	Arith. grade	0.8	0.4		0.4	0.2		0.6	0.2		1.0	0.2		4.70**
WORD SEGMENTING:	Total	13.6	4.3	3	13.2	5.3	3	6.0	7.4		13.5	5.6	3	5.41**
	Syllables	9.4	3.7		10.4	3.8	3	3.0	3.5		8.8	5.0		5.91**
FORMBOARD:*	Total time per block	11.1	2.5		10.7	0.1		10.6	0.1		14.3	8.8		2.69*
OBSERVER CHECKLIST:	A. Motor activity	5.1	1.6		4.3	1.7		6.0	2.5		3.5	1.9		3.27*
RENFREW:	Information	25.3	3.4	3	23.3	2.7		20.8	2.7		24.8	2.2		4.71**
CIRCUS:	#2 How much and how many	31.3	5.0		25.6	6.8		25.2	5.3		32.3	4.4		6.86**
	#5 Finding letters and numbers	17.2	3.1		14.2	3.5		17.7	2.0		18.0	3.5		3.50*
	#9 Listen to the story	17.5	3.3	3	15.3	2.5		13.7	3.9		17.3	1.8		4.25**

1. Degrees of freedom = 3,178 for all comparisons.
2. Results of Scheffé's tests: list the number(s) of the group(s) with scores significantly lower, or poorer, than the score of the designated group.

* Higher scores represent better performance.

* $p < .05$

** $p < .01$

The transfers obtained scores significantly lower than those obtained by the children in the French immersion program on the Renfrew Action Picture Test (Information score) and on CIRCUS #9: Listen to the Story. On a measure of ability to segment words into syllables, the transfers scored significantly more poorly than children enrolled in the regular English program from the beginning of the five-year-old kindergarten year. The only other significant difference among the groups was found for the WRAT reading grade level, where the children in the regular English program had a reading grade score significantly lower than that of children who were in the French immersion kindergarten program. Thus, examination of the scores presented for the four groups in Table 22 indicates that, on the whole, children enrolled in the bilingual program had higher IQ scores and performed well on all tests administered. The children who were enrolled in the regular English program and children who were transferred to the English program from French immersion tended to have lower IQ scores, although they were within the average to high average range, and to have generally lower scores on the variables of the Early Identification Assessment battery.

Kindergarten Follow-up Assessment Battery

One-way analyses of variance were also computed to examine group differences on the measures of the five-year-old kindergarten Follow-up Assessment Battery. Means, standard deviations and the results of Scheffé's multiple comparisons for the variables on which the one-way analysis of variance was significant are presented in Table 23. Very few significant differences were found among the groups. Scheffé's multiple comparisons indicated that children who had transferred to the English program from the French immersion program scored significantly below the children enrolled in the bilingual program on measures of the ability to segment words into syllables and Circus #13: Think it Through. The transfers also scored significantly lower than the children enrolled in the regular English program on the ability to segment words in any way.

TABLE 23

Means, standard deviations, F Ratios and the results of Scheffé's for significant comparisons of the four kindergarten enrolment groups on measures of the kindergarten Follow-up Assessment Battery.

	1) French Immersion Kdg.			2) English Kindergarten			3) Transfers			4) Bilingual Kindergarten			F Ratios[1.]
	$\bar{X}$	SD	Sch[2.]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	
WORD SEGMENTING: Total	14.8	2.8		15.5	0.9	3	8.2	6.6		14.3	3.2		10.43**
Syllables	10.9	2.8		9.7	3.4		6.7	5.5		12.7	3.6	3	5.01**
CIRCUS:													
#9 Listen to the story	20.8	2.8		18.8	2.3		18.0	3.6		21.7	4.1		3.78*
#13 Think it Through	24.9	3.1		23.6	4.1		20.7	4.5		27.7	2.9	3	5.46**

1. Degrees of freedom = 3,178 for all comparisons.

2. Results of Scheffé's tests: list the number(s) of the group(s) with scores significantly lower, or poorer, than the score of the designated group.

* $p < .05$

** $p < .01$

Comparisons Involving Children Enrolled in Five-year-old French Immersion Kindergarten

Predicting Achievement in Five-year-old French Immersion Kindergarten on the Basis of Criterion Measures Obtained in Four-year-old Kindergarten.

Forward step-wise multiple linear regression analysis (SPSS SUBPROGRAM REGRESSION, Nie et al., 1975) was employed to select a subset from a group of variables which would form the best possible combination for predicting a given variable. A multiple regression analysis was completed for each of 11 criterion variables listed in Table 24. Thirty-five predictor variables assessed in four-year-old kindergarten (see Table 24) were included in these analyses. A maximum number of 10 independent variables to be entered in the multiple regression equation was specified.

Multiple regression analyses were computed for the 11 criterion variables for the children enrolled in French immersion kindergarten. Cases with missing values were eliminated from all calculations through listwise deletion of missing data, yielding a total of 142 children involved in the analyses. Pearson product-moment correlations computed among the 11

TABLE 24

Criterion and Predictor variables involved in the correlational analysis and multiple linear regression analyses.

11 Criterion Variables (5-year-old kdg.)	35 Predictor Variables (4-year-old kdg.)
OISE French Comprehension Test (Primer)	WPPSI - Full Scale IQ
Peabody IQ	Peabody IQ
Renfrew Action Picture Test Information Grammar	Matrices (Raw score)
Picture-naming (French) Time Errors	WRAT: Reading grade score Spelling grade score Arithmetic grade score
WRAT: Reading percentile Spelling percentile Arithmetic percentile	Picture-naming Time Errors
Letter-naming (French)	Colour-naming
Counting and number-naming (French)	Observer Checklist: A Amount of motor activity B Performance rate C Manual dexterity D Amount of speech E Attention F Anxiety G Self-confidence H Effort displayed I Cooperation J Interest
	Renfrew Action Picture Test Information Grammar
	Conners Teacher Rating Scale Conduct problem Inattentive-passive Anxiety Hyperactivity
	Myklebust Pupil Behavior Rating Scale Auditory comprehension Spoken language Orientation Motor coordination Personal-social behavior
	CIRCUS: # 2 How Much and How Many # 5 Finding Letters & Numbers # 7 How Words Sound # 9 Listen to the Story #13 Think it Through
	FOPMBOARD: Total time per block.

criterion variables and 35 predictor variables are presented in Table 25. In this table, variables are labelled in abbreviated form. The variables names corresponding to these abbreviations are listed in Appendix 7.

The results of the multiple regression analyses for the eleven criterion measures of achievement are presented in Tables 26 through 36. The following information is listed in these tables: the 10 best predictors; the simple correlation between the criterion variable and each of the predictor variables; the multiple correlation coefficient which indicates the direction and relative strength of the dependence which can be explained by linear dependence upon the predictor variables operating jointly; and R^2 which indicates the proportion of variation of the criterion variable explained by the predictor variables. F Ratios are presented for each regression equation as a test of the significance of each new regression equation which is formed by the addition of another predictor variable. For example, the F Ratio listed to the right of the second predictor variable is a test of significance of the regression equation formed by the first and second predictor variables. The F Ratio listed to the right of the third predictor variable is a test of

TABLE 25

Pearson-Product-moment correlations computed among the criterion and predictor variables.

	XPRCONPP	XPLANBIO	XRENINF	XRENGRM	XPICTIM	XPICERR	XWRARP	XWRASP	XWRAAP	XFWRAR	XFWRAA	TPBTOTAL
FSIQ	0.23083	0.41335	0.14400	0.20152	0.12393	0.25632	0.50843	0.41072	0.52315	0.26971	0.30265	-0.09090
PEABIQ	0.09845	0.49400	0.10007	0.09225	0.12321	0.11765	0.21446	0.05564	0.29700	0.15229	0.21613	0.02394
MATRS	0.24119	0.33492	0.11976	0.17513	0.13878	0.13355	0.19196	0.12529	0.24360	0.08999	0.23380	-0.06747
WRAR	0.06276	0.24234	-0.04411	0.06901	0.25715	0.20073	0.50464	0.26398	0.38934	0.28173	0.23533	-0.09944
WRAS	0.12469	0.19080	0.09153	0.18014	0.03157	0.20545	0.28589	0.29029	0.35762	0.24730	0.27326	-0.09376
WRAA	0.22266	0.23720	0.06634	0.20881	0.28306	0.35077	0.36795	0.18832	0.39398	0.31916	0.39913	-0.04152
PICTIME	-0.12043	-0.28850	-0.14910	-0.15352	-0.21510	-0.20484	-0.10880	-0.06147	-0.22133	-0.21435	-0.05923	0.08423
PICERR	-0.04383	-0.42376	-0.08702	-0.16940	-0.22222	-0.11704	-0.33297	-0.06030	-0.23822	-0.26022	-0.17876	0.02245
COLCOR	0.29135	0.05027	0.16417	0.19412	0.05702	0.25883	0.26799	0.08648	0.20499	0.13766	0.26679	0.03837
SYLTOT	0.17260	0.06963	0.30694	0.36212	0.01515	0.23304	0.09599	0.04178	0.08483	0.10467	0.10449	-0.04130
OBSA	-0.04994	0.10854	0.08126	0.04284	0.03017	-0.10679	-0.16525	-0.05319	-0.03705	0.09685	-0.00304	0.17034
OBSM	0.06784	0.16945	0.09251	0.12171	0.10778	0.15727	0.06151	0.13557	0.10250	0.19118	0.07030	0.04856
OBSC	0.04447	-0.00813	-0.03663	0.00857	0.06824	0.17377	0.16014	0.11291	0.12310	0.05860	0.14534	-0.07078
OBSD	0.12833	0.06934	0.12475	0.08175	0.12678	0.19526	0.04041	0.03774	0.12508	0.22992	0.11180	0.02681
OBSE	0.20408	0.13138	0.03426	0.17445	0.04603	0.19868	0.29045	0.13158	0.16903	0.04973	0.08276	-0.06156
OBSF	0.02014	0.14224	0.14662	0.08451	0.18225	0.04678	0.15241	0.16378	0.17308	0.17437	0.07169	-0.03096
OBSG	0.02625	0.05798	0.13825	0.11656	0.13916	0.03418	0.15672	0.18155	0.21368	0.08948	0.04113	-0.07687
OBSH	0.10291	0.07986	0.14484	0.19050	0.05335	0.17178	0.27660	0.14948	0.19750	0.06166	0.10243	-0.08232
OBSI	0.00772	0.08278	0.04992	0.09033	0.29682	0.04763	0.14502	0.06691	0.13264	0.11029	0.06708	-0.10959
OBSJ	0.18107	0.13308	0.21121	0.24031	0.14298	0.21333	0.22798	0.12191	0.16610	0.10778	0.14216	-0.16128
RENINF	0.20450	0.12108	0.20473	0.19470	0.01510	0.24326	0.12447	0.14315	0.21830	0.21209	0.19145	-0.06745
RENGRAM	0.18935	0.02661	0.14474	0.16351	0.02189	0.22493	0.04415	0.15059	0.14192	0.05730	0.06901	-0.06792
CONPROB	-0.08435	-0.00956	0.11333	0.06655	-0.09381	-0.14791	-0.32932	-0.30081	-0.25318	0.03769	-0.21507	-0.01274
CONPASS	-0.16135	-0.15586	-0.07007	-0.16973	-0.13105	-0.23632	-0.41386	-0.27058	-0.27749	-0.10077	-0.24966	0.00873
CONANX	0.07522	0.05347	-0.13993	-0.12653	-0.11112	0.05469	0.06422	0.12424	0.06683	0.29040	0.04339	-0.08360
CONHYP	-0.13409	-0.10120	0.09377	0.10168	-0.10407	-0.21195	-0.37094	-0.26949	-0.24774	-0.18527	-0.21574	-0.00910
AUDCUMP	0.20403	0.31617	0.14136	0.17601	0.16470	0.35959	0.46184	0.23721	0.40668	0.33064	0.29588	-0.08581
SPOKLAN	0.17829	0.29670	0.12511	0.18059	0.15454	0.29027	0.42679	0.18751	0.33583	0.30907	0.28267	-0.08649
ORIEN	0.08630	0.15388	-0.02775	0.09148	0.05848	0.05111	0.28929	0.19455	0.27785	0.20009	0.21325	-0.08209
MOTCOR	0.08279	0.13824	0.03685	0.16597	0.09735	0.09166	0.20605	0.24155	0.24083	0.18072	0.11917	-0.08234
PERSOC	0.12269	0.09483	-0.06918	-0.01433	0.20024	0.22717	0.43690	0.31818	0.36064	0.26989	0.29997	-0.09278
CIR2TOT	0.28212	0.33121	0.06511	0.16007	0.26708	0.24291	0.39302	0.18719	0.43787	0.28239	0.42525	-0.09004
CIR5TOT	0.14321	0.19076	-0.01742	0.06901	0.26848	0.22239	0.48249	0.14001	0.34631	0.33170	0.28997	-0.14015
CIR7TOT	0.22931	0.40847	0.16101	0.23870	0.25601	0.29552	0.43095	0.19853	0.38277	0.22409	0.31559	-0.01475
CIR9TOT	0.21928	0.39479	0.05343	0.08479	0.20266	0.17820	0.25629	0.20031	0.34878	0.11668	0.25947	0.09600
CIR13TOT	0.26233	0.37034	0.22189	0.19519	0.22042	0.27689	0.34077	0.20963	0.40935	0.23066	0.28269	0.01939
XPRCOMPP	1.00000	0.11444	0.24079	0.30796	-0.06080	0.58974	0.15800	0.14802	0.24860	0.27951	0.27483	-0.11771
XPEABIQ	0.11444	1.00000	0.03510	0.03881	0.19915	0.05764	0.10315	-0.01827	0.21765	0.07107	0.06427	-0.01994
XRENINF	0.24079	0.03510	1.00000	0.69349	-0.20869	0.27327	0.05778	0.08223	0.14913	0.14038	0.08340	0.02256
XRENGRM	0.30796	0.03881	0.69349	1.00000	-0.15216	0.31140	0.09227	0.12227	0.21516	0.09774	0.13892	0.03578
XPICTIM	-0.06080	0.19915	-0.20869	-0.15216	1.00000	-0.08165	0.12681	-0.04414	0.02034	-0.00884	0.00845	-0.03050
XPICERR	0.58974	0.05764	0.27327	0.31140	-0.08165	1.00000	0.20312	0.14107	0.32215	0.34024	0.37268	-0.09333
XWRARP	0.15800	0.10315	0.05778	0.09227	0.12681	0.20312	1.00000	0.65785	0.56647	0.24607	0.27812	-0.08671
XWRASP	0.14802	-0.01827	0.08223	0.12227	-0.04414	0.14107	0.65785	1.00000	0.57698	0.14032	0.14300	0.01084
XWRAAP	0.24860	0.21765	0.14913	0.21516	0.02034	0.32215	0.56647	0.57698	1.00000	0.38919	0.29201	-0.04431
XFWRAR	0.27951	0.07107	0.14038	0.09774	-0.00884	0.34024	0.24607	0.14032	0.38919	1.00000	0.23952	-0.18455
XFWRAA	0.27483	0.06427	0.08340	0.13892	0.00845	0.37268	0.27812	0.14300	0.29201	0.23952	1.00000	-0.02344
TPBTOTAL	-0.11771	-0.01994	0.02256	0.03578	-0.03050	-0.09333	-0.08671	0.01084	-0.04431	-0.18455	-0.02344	1.00000

the significance of the regression equation formed by the first three predictor variables, and so on.

Prediction of Achievement in French

To examine the prediction of achievement in French in the five-year-old French immersion kindergarten program, five criterion measures of achievement in French were examined. These measures included the French Comprehension Test, Primer (percentile score), letter-naming in French, counting and naming numbers in French, and picture-naming in French (speed, number of errors). Pearson product-moment correlations computed between each of these variables and the 35 predictor variables were examined to determine the strength of the relationship between the predictors and these criterion measures (see Table 25). In addition, the 35 predictors were entered into step-wise multiple linear regression analyses for each of the criterion measures of French achievement to select a subset of variables that would form the best possible combination for predicting performance. The results of these multiple linear regression analyses are presented in Tables 26 through 30 and are discussed below.

French Comprehension Test: Simple correlations between percentile scores on the French Comprehension Test (Primer) and predictor variables (see Table 25) indicated that performance on this test of achievement in French was most highly related to colour naming ($r = .29$), CIRCUS readiness measures #2: How Much and How Many ($r = .28$) and #13: Think it Through ($r = .26$). Expressive language skills in English (Renfrew Information, $r = -.25$) and IQ measures (WPPSI FSIQ, $r = .23$, and Matrices $r = .24$) were also among the measures most highly correlating with this criterion measure.

The results of the step-wise multiple regression analysis for this criterion variable, are presented in Table 26. Colour naming and the Renfrew Action Picture Test (information) were combined statistically to generate a multiple correlation of .36 which accounted for 13% of the variance in percentile scores on the French Comprehension Test.

Letter-Naming in French: With regard to the prediction of letter-naming in French (XFWRAR), several simple correlations exceeded .25 (see Table 25). Knowledge of letters and numbers in English (CIRCUS measures and Wide Range Achievement Test scores) and teacher ratings of language skills and personal-social

TABLE 26

Results of the multiple linear regression analysis for the French Comprehension Test (percentile).

10 Best Predictors	Simple Correlation	Multiple Correlation	R^2	F Ratio	df
Colour naming	.29	.29	.08	12.99**	1,140
Renfrew Information	.26	.36	.13	10.10*	2,139
Matrices raw score	.24	.40	.16	8.91**	3,138
Observer Checklist:					
I: Cooperation	.01	.42	.17	7.36*	4,137
J: Interest	.18	.44	.20	6.62**	5,136
Formboard:					
Total time per block	-.12	.45	.21	5.81**	6,135
CIRCUS					
#13: Think it Through	.26	.46	.21	5.91**	7,134
Picture naming (Eng.):					
Errors	.59	.47	.22	4.71**	8,133
Observer Checklist:					
C: Manual dexterity	.05	.48	.23	4.35**	9,132
CIRCUS					
#2: How Much and How Many	.28	.49	.24	4.06**	10,131

* $p < .05$

** $p < .01$

behavior were among the measures most highly related to Letter-naming in French.

In the step-wise multiple regression analysis, which is presented in Table 27, the following seven measures combined to yield a multiple correlation of .61 accounting for 37% of the variance in Letter-naming in French. These measures were CIRCUS #5: Finding Letters and Numbers, Conners Teacher Anxiety Scale, Observer Checklist D: Amount of Speech, Myklebust Pupil Rating Scale (Personal-Social Behavior), Conners Teacher Rating of Conduct Problem, Observer Checklist A: Amount of motor activity, and Conners Teacher Rating of Hyperactivity. The addition of three other measures (Formboard total time per block, speed of picture-naming in English, Conners Teacher Rating of inattentive-passive behavior) yielded a multiple correlation of .63 accounting for 40% of the variance in Letter-naming. Thus, Letter-naming in French appeared to be best predicted by a variety of rating scales completed by teachers and examiners. The best single predictor of letter-naming in French was the CIRCUS measure of knowledge of letters and numbers in English.

TABLE 27

Results of the multiple linear regression analysis for Letter-naming in French.

Ten Best Predictors	Simple Correlation	Multiple Correlation	R^2	F Ratio	df
CIRCUS #5 Finding Letters & Numbers	.33	.33	.11	17.31**	1,140
Conners Anxiety	.29	.43	.18	15.48**	2,139
Observer's Checklist: D: Amount of Speech	.23	.49	.24	14.86**	3,138
Myklebust Personal-Social Behavior	.27	.54	.29	13.75**	4,137
Conners Conduct Problem	.04	.59	.34	14.24**	5,136
Observer's Checklist: A: Amount of motor activity	.10	.60	.36	12.37**	6,135
Conners Hyperactivity	-.19	.61	.37	11.10**	7,134
Formboard Time per block (total)	-.19	.62	.38	10.28**	8,133
Picture-naming (Eng.): Time	-.26	.63	.39	9.39**	9,132
Conners Inattentive-passive	-.10	.63	.40	8.68**	10,131

* $p < .05$ ** $p < .01$

Counting and Number-naming in French: The ability to count and identify numbers in French (XFWRAA) also shared simple correlations with knowledge of letters and numbers in English, CIRCUS readiness measures and teacher ratings of language skills and personal-social behavior (see Table 25).

The results of the step-wise multiple regression analysis are presented in Table 28. Counting in French was best predicted by a combination of scores on CIRCUS #2: How Much and How Many, and on Wide Range Achievement Test of arithmetic (grade score) which combined to yield a multiple correlation of .46 accounting for 21% variance. Additional psychometric scores and behavior ratings did not substantially increase the prediction. Thus, measures of number ability in English are the best predictors of ability to count and to identify numbers in French.

Speed of Picture-naming in French: Simple correlations with a measure of speed of naming pictures in French (XPICTIM) were greater than .25 for Wide Range Achievement Test reading and arithmetic scores, the Observer Checklist rating of Cooperation and CIRCUS measures of knowledge of numbers and letters and auditory discrimination ability (see Table 25).

TABLE 28

Results of the multiple linear regression analysis for counting and number-naming in French.

10 Best Predictors	Simple Correlation	Multiple Correlation	R^2	F Ratio	df
CIRCUS #2: How Much and How Many	.43	.43	.18	30.91**	1,140
WRAT Arith grade	.40	.46	.21	18.62**	2,139
Picture-naming (Eng.): time	-.06	.49	.24	14.16**	3,138
Myklebust Orientation	.21	.50	.25	11.23**	4,137
Colour naming	.27	.51	.26	9.36**	5,136
Observer's Checklist: I: Cooperation	.07	.52	.27	8.14**	6,135
Myklebust Personal-Social Behavior	.30	.53	.28	7.27**	7,134
Motor Coordination	.12	.53	.28	6.55**	8,133
CIRCUS #5: Finding Letters & Numbers	.29	.43	.29	5.91**	9,132
Observer's Checklist: E: Attention	.08	.54	.29	5.38**	10,131

* $p < .05$

** $p < .01$

A step-wise multiple regression analysis presented in Table 29 indicated that the speed of Picture-naming in French was best predicted by a statistical combination of Observer Checklist I: Cooperation, CIRCUS #5: Finding Letters and Numbers, Observer Checklist H: Effort displayed,Conners teacher rating of anxiety, CIRCUS #9: Listen to the Story, and Wide Range Achievement Test spelling grade score. These measures yielded a multiple correlation of .45 accounting for 20% of the variance in the speed of Picture-naming in French.

Picture-naming in French (Errors): When the number of errors made during Picture-naming in French was considered (XPICERR), the simple correlations presented in Table 25 exceeded .25 for WPPSI Full Scale IQ, Wide Range Achievement Test arithmetic grade score, Colour-naming in English, teacher ratings of language skills and CIRCUS measures of auditory discrimination and problem-solving.

The 35 predictors were entered in a step-wise multiple regression analysis and the results are presented in Table 30. A rating of auditory comprehension (Myklebust) and the Renfrew Action Picture Test

TABLE 29

Results of the multiple linear regression analysis for Picture-naming in French (Speed).

10 Best Predictors	Simple Correlation	Multiple Correlation	R^2	F Ratio	df
Observer's Checklist: 1: Cooperation	.30	.30	.09	13.52**	1,140
CIRCUS #5:Finding Letters and Numbers	.27	.36	.13	10.13**	2,139
Observer's Checklist: H: Effort Displayed	.05	.39	.16	8.41**	3,138
Conners Anxiety	-.11	.42	.17	7.23**	4,137
CIRCUS #9:Listen to the Story	.20	.43	.19	6.30**	5,136
WRAT Spelling Grade	.03	.45	.20	5.68**	6,135
WRAT Arith. Grade	.28	.46	.21	5.18**	7,134
Picture-naming (Eng.): Time	-.22	.47	.22	4.71**	8,133
Renfrew Information	.02	.48	.23	4.32**	9,132
Myklebust Personal-social behavior	.20	.49	.24	4.04**	10,131

* $p < .05$

** $p < .01$

TABLE 30

Results of the multiple linear regression analysis for picture-naming in French (Errors).

10 Best Predictors	Simple Correlation	Multiple Correlation	R^2	F Ratio	df
Myklebust Auditory Comprehension	.36	.36	.13	20.79**	1,140
Renfrew Grammar	.24	.41	.17	14.33**	2,139
Colour-naming	.26	.44	.20	11.28**	3,138
Word Segmentation (syllables)	.23	.46	.21	9.24**	4,137
Myklebust Motor Coordination	.09	.48	.23	7.97**	5,136
WRAT Arith. grade	.35	.49	.24	7.05**	6,135
Observer's Checklist:					
I: Cooperation	.05	.50	.25	6.48**	7,134
J: Interest	.21	.52	.27	6.26**	8,133
G: Self-confidence	.03	.53	.28	5.71**	9,132
D: Amount of Speech	.19	.54	.29	5.39**	10,131

* $p < .05$

** $p < .01$

Grammar score combined to yield a multiple correlation of .41 accounting for 17% of the variance in errors on the Picture-naming test in French. Prediction was not raised substantially by the addition of other predictors. Thus auditory comprehension and grammatical skills in English were most highly related to the measure of errors in Picture-naming in French.

Summary of Prediction of Achievement in French:

In summary, for the multiple linear regression analyses involving measures of achievement in French, the amount of variance accounted for by the single best predictors ranged from 8% to 18%. When the 10 best predictors were combined in these analyses, the amount of variance accounted for ranged from 24% to 40%.

The four-year-old kindergarten predictor variables yielded the best prediction for the criterion of Letter-naming in French. However, for all of the French language measures, a great proportion of variance was unaccounted for by the predictor variables. The following measures were among the best predictors of performance on the criterion measures of achievement in French: Colour-naming, CIRCUS #5: Finding Numbers and Letters, Observer Checklist items, CIRCUS #2: How Much and How Many, Renfrew Action Picture Test, Myklebust

Pupil Rating Scale (measure of auditory comprehension), Conners Teacher Rating Scale (measure of anxiety), speed of Picture-naming in English, Wide Range Achievement Test arithmetic grade score and Matrices score. It is interesting to note that WPPSI IQ did not enter into any of the multiple correlations predicting achievement in French at the French immersion kindergarten level.

Prediction of Achievement on Measures in the English Language

Six measures of achievement in the English language were obtained at the end of five-year-old kindergarten. Pearson product-moment correlations among these criterion measures and the 35 predictors assessed at the end of four-year-old kindergarten are presented in Table 25. The results of step-wise multiple linear regression analyses for each of these criterion measures are presented in Table 31 through 36.

Peabody Picture Vocabulary Test (IQ score), a measure of receptive language skills in English, was found to correlate most highly ($r \geq .40$) with four predictor measures, namely, the score obtained on the Peabody test at the end of four-year-old kindergarten, number of errors in Picture-naming in English, WPPSI Full Scale IQ, and CIRCUS #7: How Words Sound. Other predictor

variables were also found to be highly related to this criterion measure, including Matrices raw score, speed of Picture-naming in English, teacher ratings of language skills and CIRCUS readiness measures of quantitative concepts, oral comprehension and problem-solving.

The results of a step-wise multiple regression analysis are presented in Table 31. This analysis indicated that the IQ score based on this measure assessed in four-year-old kindergarten was the best single predictor of performance on this measure at the end of five-year-old kindergarten and accounted for 24% of the variance. The addition of measures of Picture-naming in English (errors), CIRCUS #9: Listen to the Story, Myklebust ratings of personal-social behavior and auditory comprehension, Colour-naming, and the Conners Teacher Rating of anxiety raised the multiple correlation to .63, accounting for 40% of the variance.

Wide Range Achievement Test (WRAT) Reading Percentile: Many predictor variables were highly correlated with the Wide Range Achievement Test reading percentile scores obtained at the end of five-year-old kindergarten. The Pearson correlations are included in Table 25. The WRAT reading grade score obtained in four-year-old kindergarten

TABLE 31

Results of the multiple linear regression analysis for Peabody Picture Vocabulary Test (IQ).

10 Best Predictors	Simple Correlation	Multiple Correlation	R^2	F Ratio	df
Peabody IQ	.49	.49	.24	45.19**	1,140
Picture-naming (Eng.): Errors	-.42	.56	-.31	32.05**	2,139
CIRCUS #9: Listen to the Story	.40	.59	.35	24.31**	3,138
Myklebust Personal-Social Behavior	.10	.60	.36	19.29**	4,137
Myklebust Auditory Comprehension	.32	.61	.37	16.24**	5,136
Colour-naming	.06	.62	.39	14.25**	6,135
Conners Anxiety	.05	.63	.40	12.80**	7,134
WPPSI FSIQ	.41	.64	.41	11.45**	8,133
WRAT Arithmetic grade	.24	.65	.42	10.52**	9,132
Picture-naming (Eng.): time	-.42	.65	.42	9.64**	10,131

* $p < .05$
** $p < .01$

was highly correlated with the score obtained in five-year-old kindergarten (r = .51). Other high correlations were found with WPPSI Full Scale IQ, Myklebust ratings, all CIRCUS measures, Conners Teacher Ratings and Observer's Checklist scores.

The results of a step-wise multiple linear regression are presented in Table 32. This analysis indicated that the best single predictor of the WRAT reading percentile was WPPSI Full Scale IQ, which yielded a multiple correlation of .51 accounting for 26% of the variance. The addition of the WRAT reading grade score, Conners Teacher Ratings and Observer's Checklist measures raised the multiple correlation to .68 accounting for 47% of the variance. Fifty percent of the variance was accounted for when Picture-naming in English (time) and the Myklebust Rating Scale measure of orientation were included in the multiple correlation. Thus, IQ and behavior ratings appeared to be the best predictors of reading achievement at the end of five-year-old kindergarten.

Wide Range Achievement Test (WRAT) Spelling Percentile: When compared with the WRAT reading percentile, the WRAT measure of spelling (percentile) was found to be less highly related to four-year-old kindergarten measures. Pearson correlations presented

TABLE 32

Results of the Multiple linear regression analysis for WRAT reading (percentile).

10 Best Predictors	Simple Correlation	Multiple Correlation	R^2	F Ratio	df
WPPSI FSIQ	.51	.51	.26	48.81**	1,140
WRAT Reading Grade	.51	.60	.36	38.79**	2,139
Conners Inattentive-passive	-.41	.63	.40	30.79**	3,138
Observer's Checklist B: Performance Rate	.06	.66	.43	26.31**	4,137
Conners Anxiety	.06	.67	.45	22.12**	5,136
Observer's Checklist H: Effort Displayed	.28	.68	.47	19.54**	6,135
Picture-naming (Eng.): Time	-.11	.69	.47	17.81**	7,134
Myklebust Orientation	.29	.70	.50	16.34**	8,133
WRAT Arith. Grade	.37	.71	.51	15.16**	9,132
CIRCUS #5: Finding Letters and Numbers	.48	.72	.52	14.15**	10,131

* $p < .05$ ** $p < .01$

in Table 25 indicated that spelling achievement was related to the WPPSI Full Scale IQ and WRAT measures of reading and spelling obtained at the four-year-old kindergarten level. Conners Teacher ratings and the Myklebust rating of personal-social behavior were also related to spelling achievement such that children who presented with poor behavior in the classroom had lower achievement scores in spelling.

Results of a step-wise multiple regression analysis are presented in Table 33. This analysis indicated that WPPSI Full Scale IQ was the best single predictor of spelling, accounting for 17% of the variance. Thirty-four percent of the variance could be accounted for when various Conners Teacher Ratings, Peabody IQ, WRAT arithmetic and reading scores, Picture-naming in English (errors), Observer Checklist measures, and CIRCUS #5: Finding Letters and Numbers, were included in the multiple correlation.

Wide Range Achievement Test (WRAT) Arithmetic Percentile: The WRAT arithmetic score (percentile) showed correlations with predictor variables similar to those noted for the WRAT reading percentile score (see Table 25). IQ, WRAT spelling and arithmetic

TABLE 33

Results of the multiple linear regression analysis for WRAT spelling (percentile).

10 Best Predictors	Simple Correlation	Multiple Correlation	R^2	F Ratio	df
WPPSI FSIQ	.41	.41	.17	28.41**	1,140
Conners					
Conduct Problem	-.30	.46	.21	18.52**	2,139
Peabody IQ	.06	.49	.24	14.79**	3,138
Conners					
Anxiety	.12	.51	.26	12.29**	4,137
Inattentive-passive	-.27	.53	.28	10.69**	5,136
WRAT Arith. Grade	.19	.55	.30	9.64**	6,135
Observer Checklist					
G: Self-confidence	.18	.56	.31	8.68**	7,134
WRAT Reading Grade	.26	.57	.32	7.92**	8,133
Picture-naming (Eng.): Errors	-.06	.58	.34	7.41**	9,132
CIRCUS					
#5: Finding Letters & Numbers	.14	.59	.34	6.89**	10,131

* $p < .05$

** $p < .01$

scores in four-year-old kindergarten, teacher ratings of behavior and language skills and CIRCUS readiness measures correlated substantially with arithmetic percentile scores. A stepwise multiple regression analysis presented in Table 34 indicated that WPPSI FSIQ was the single best predictor of arithmetic percentile scores, accounting for 27% of the variance. When the WRAT reading grade score, CIRCUS readiness measures and ratings by teachers and observers were entered into the multiple correlation, 39% of the variance could be accounted for.

Renfrew Action Picture Test: Expressive language functions in English were measured by the Renfrew Action Picture Test. Both the Information and Grammar scores correlated highly with only one predictor variable when the Pearson correlations were examined (see Table 25). Word segmenting into syllables was substantially related to these criterion measures.

The results of stepwise multiple linear regression analyses are presented in Tables 35 and 36, respectively. These analyses indicated that word segmentation into syllables was the single best predictor of the Information and Grammar scores. However, very little of the variance was accounted for in these analyses.

TABLE 34

Results of the multiple linear regression analysis for WRAT Arithmetic (percentile).

10 Best Predictors	Simple Correlation	Multiple Correlation	R^2	F Ratio	df
WPPSI FSIQ	.52	.52	.27	52.76**	1,140
WRAT Reading Grade	.40	.55	.31	30.70**	2,139
CIRCUS					
#13: Think it Through	.41	.57	.32	21.99**	3,138
Myklebust					
Orientation	.28	.58	.34	17.37**	4,137
Observer's Checklist					
B: Performance Rate	.10	.60	.36	14.99**	5,136
Myklebust					
Auditory comprehension	.41	.60	.36	12.93**	6,135
Spoken language	.34	.61	.38	11.59**	7,134
CIRCUS					
#9: Listen to the Story	.35	.62	.38	10.33**	8,133
#7: How Words Sound	.38	.62	.39	9.36**	9,132
Observer's Checklist					
G: Self-confidence	.21	.63	.39	8.54**	10,131

* $p < .05$

** $p < .01$

TABLE 35

Results of the multiple linear regression analysis for the Renfrew Action Picture Test Information Score.

10 Best Predictors	Simple Correlation	Multiple Correlation	R^2	F Ratio	df
Word Segmentation (syllables)	.31	.31	.09	14.57**	1,140
Conners					
Anxiety	-.14	.35	.12	9.76**	2,139
Renfrew Information	.21	.39	.15	8,32**	3,138
Myklebust					
Personal-social behavior	-.07	.42	.17	7.24**	4,137
CIRCUS					
#13: Think it Through	.22	.45	.20	6.75**	5,136
# 9: Listen to the Story	.05	.46	.21	6.19**	6,135
Observer's Checklist					
J: Interest	.21	.49	.24	5.94**	7,134
I: Cooperation	.05	.51	.25	5.69**	8,133
Peabody IQ	.10	.52	.27	5.40**	9,132
Observer's Checklist					
E: Attention	.03	.53	.28	5.20**	10,131

* $p < .05$

** $p < .01$

TABLE 36

Results of the multiple linear regression analyses for the Renfrew Action Picture Test Grammar Score.

10 Best Predictors	Simple Correlation	Multiple Correlation	R^2	F Ratio	df
Word Segmentation (Syllables)	.38	.38	.15	23.94**	1,140
Conners Anxiety	-.13	.42	.17	14.52**	2,139
Renfrew Information	.20	.44	.20	11.22**	3,138
Colour-naming	.19	.46	.21	8.93**	4,137
Myklebust Personal-social behavior	-.01	.47	.22	7.57**	5,136
Conners Inattentive-passive	-.17	.48	.23	6.89**	6,135
Myklebust Motor Coordination	.17	.50	.25	6.29**	7,134
Observer's Checklist C: Manual Dexterity	.01	.51	.26	5.88**	8,133
J: Interest	.24	.53	.28	5.68**	9,132
WRAT Spelling Grade	.18	.54	.29	5.39**	10,131

* $p < .05$

** $p < .01$

Twenty-eight percent of the variance in the Information scores could be predicted when measures of Information, teacher ratings of anxiety, receptive language skills, CIRCUS readiness measures, and observer ratings were included in the multiple correlation. Twenty-nine percent of the variance in Grammar scores could be accounted for by a multiple correlation based on measures of Information, teacher ratings of anxiety and inattentive-passive behavior, Myklebust Ratings of personal-social behavior and motor coordination, Colour-naming in English, Observer Checklist items and the WRAT spelling grade score.

Summary of Predictions of Achievement on Measures in the English Language: In summary, stepwise multiple linear regression analyses for criterion measures obtained in English at the end of French immersion five-year-old kindergarten indicated that from 9% to 27% of the variance in these criterion measures could be accounted for on the basis of a single predictor. Twenty-eight percent to 52% of the variance could be accounted for on the basis of up to 10 predictor variables. The best predictions could be made for WRAT reading percentile scores. Academic achievement in reading, spelling and arithmetic was best predicted by IQ. Conners teacher ratings of

anxiety and inattentive-passive behavior, Peabody IQ, and WRAT reading and arithmetic grade scores at the end of four-year-old kindergarten were related to many of the criterion measures. Other important predictors were the CIRCUS scores and Myklebust Pupil Rating Scales, Picture-naming in English, the Observer Checklist and Colour-naming. Thus, it is interesting to note that, as with the prediction of French achievement at the end of five-year-old French immersion kindergarten, the prediction of achievement measures in English was related to similar measures. However, WPPSI Full Scale IQ was of much greater importance when predicting achievement in measures in the English language than when predicting achievement in French.

Comparisons of High Achievers and Low Achievers in Five-year-old French immersion Kindergarten

Children who were enrolled in the French immersion program at the end of five-year-old kindergarten were divided into two groups on the basis of the percentile scores obtained on the French Comprehension Test, Primer. High achievers were defined as children who obtained a percentile score at or above the 75th percentile (n = 36). Low achievers were those children who

obtained a score less than or equal to the 25th percentile on the French Comprehension Test (n = 32).

Descriptive Information

Descriptive information in terms of sex, hand dominance and age for these two groups is presented in Table 37. Chi-square analysis (SPSS SUBPROGRAM CROSSTABS, Nie et al., 1975) indicated that there were no significant differences in terms of the proportion of children who were right-handed and the proportion of children who were left-handed in these two groups. It is interesting to note that handedness was not found to be related to achievement on the French Comprehension Test. In previous studies (Trites and Price, 1976, 1977), a higher proportion of left-handers was found among children who encountered difficulty in French immersion compared with children who were successful in the program.

Chi-square analyses yielded a significant difference in terms of the sex distribution in these two groups. The results of one-sample Chi-square tests (Nie and Hull, 1977) computed to determine group differences in terms of sex are presented in the far right hand column of Table 37. These tests did not reveal statistically significant differences in the numbers of boys and girls

TABLE 37

Sex, hand dominance and age comparisons of High Achievers and Low Achievers.

	High Achievers		Low Achievers		Chi^2
	#	%	#	%	
SEX					
Males	11	30.6	19	59.4	1.68 (df = 1)
Females	25	69.4	13	40.6	2.64 (df = 1)
Statistical Analysis	$Chi^2 = 4.60^*$ (df = 1)				
DOMINANCE					
Right	35	97.2	29	90.6	
Left	1	2.8	3	9.4	
Statistical Analysis	$Chi^2 = 0.41$ (df = 1)				
	$\bar{X}$	SD	$\bar{X}$	SD	t-prob.
AGE	5.9	0.3	5.7	0.3	.004

in these groups although there tended to be a greater number of boys among the low achievers.

T-test comparisons (SPSS SUBPROGRAM T-TEST, Nie et al., 1975) indicated that the low achievers were significantly younger than the high achievers.

Teachers' Advice re French Immersion Enrolment

The advice of four-year-old kindergarten teachers regarding enrolment in five-year-old French immersion kindergarten was examined for high achievers and low achievers. The results of Chi-square analyses for this variable are presented in the upper half of Table 38. No significant differences were found. Teachers had advised French immersion enrolment for approximately 74% of both groups. Although French immersion was not advised for 26% of the low achievers, it was also not advised for 22% of the high achievers. Thus, four-year-old kindergarten teachers' advice with regard to French immersion enrolment was not strongly related to the child's achievement on the French Comprehension Test at the end of five-year-old French immersion kindergarten.

TABLE 38

Chi-square analysis comparing High and Low Achievers in terms of Teachers' advice re French immersion enrolment.

	High Achievers		Low Achievers	
	#	%	#	%
Four-year-old kindergarten Teachers' advice re French immersion enrolment:				
Advised	20	74.1	23	74.2
Not advised	6	22.2	8	25.8
Undecided	1	3.7	0	0
Statistical Analysis	$Chi^2 = 1.22$ (df = 2)			
Five-year-old kindergarten Teachers' advice re French immersion enrolment:				
Advised	36	100.0	24	77.4
Not advised	0	0	7	22.6
Statistical Analysis	$Chi^2 = 9.06$ (df = 4)			

The five-year-old kindergarten teachers' recommendations with regard to future enrolment in French immersion are presented in the lower half of Table 38 for the high and low achievers. There were no statistically significant differences between the groups in terms of teachers' advice. However, it is interesting to note that these teachers advised enrolment in French immersion for all of the high achievers and for 77% of the low achievers. Thus, in spite of the poor performance of 24 children on a measure of French comprehension at the end of French immersion kindergarten, teachers advised that these children continue in the program. They recommended that only 7 of the low achievers should not remain in the program.

Thus, the advice of the four-year-old and five-year-old kindergarten teachers was consistent. Little correspondence was found between a child's poor performance on a measure of French comprehension and both four- and five-year-old kindergarten teachers' advice with regard to enrolment in French immersion.

Five-year-old Kindergarten Teachers' Ratings of Achievement

The five-year-old French immersion kindergarten teachers' ratings of comprehension of French, French oral

skills and current functioning levels were compared for the high achievers and low achievers. The results of these comparisons are presented in Table 39. A Chi-square analysis indicated significant differences with regard to the teachers' ratings of comprehension of French.

One-sample Chi-square tests revealed significant group differences in terms of Below average and Above average ratings such that low achievers received the greatest proportion of Below average ratings and the high achievers received the greatest proportion of Above average ratings. Teachers were fairly accurate in their prediction of French comprehension for the children who were high achievers on the French Comprehension Test. Teachers gave 72% of these children Above average ratings, and 28% received Average ratings. However, teachers gave Average ratings to 52% of the children who were achieving in the bottom quartile on the French Comprehension Test. Forty-five percent of the low achievers were rated as Below average in the comprehension of French by their teachers.

Teacher ratings of the children's oral skills in French were compared for the high achievers and low achievers. The results of the Chi-square analyses

TABLE 39

Chi-square analyses comparing high and low achievers in terms of five-year-old kindergarten teachers' ratings of achievement.

	High Achievers		Low Achievers			
	#	%	#	%	Chi^2	df
Teacher Ratings of Comprehension of French:						
Below average	0	0	14	45.2	14.0**	1
Average	10	27.8	16	51.6	2.5	1
Above average	26	72.2	1	3.2	21.4**	1
Statistical Analysis	Chi^2 = 38.37** (df = 2)					
Teacher Ratings of French Oral Skills:						
Below average	2	5.6	14	45.2	10.7**	1
Average	11	30.6	15	48.4	1.4	1
Above average	23	63.9	2	6.5	16.0**	1
Statistical Analysis	Chi^2 = 27.03** (df = 2)					
Teacher Ratings of Functioning Level:						
Early kindergarten	0	0	7	22.6	9.3**	1
Mid kindergarten	3	8.3	13	41.9	7.5**	1
Ready for Grade 1	33	91.7	11	35.5	9.1**	1
Statistical Analysis	Chi^2 = 24.01** (df = 2)					

* $p < .05$

** $p < .01$

are presented in Table 39. The significant Chi-square analysis was followed by one-sample Chi-square tests to determine group differences on these ratings. Again, there were statistically significant group differences in Below average and Above average ratings with the low achievers receiving a greater proportion of Below average ratings and the high achievers receiving a greater proportion of Above average ratings.

Teachers' ratings of French oral skills suggested that children who were high achievers with regard to the comprehension of French also tended to have well-developed French oral skills. Approximately 64% of high achievers were rated as Above average in French oral skills, while only 6% received Below average ratings. The relationship between French comprehension and French oral skills did not hold up among the low achievers. Forty-five percent of low achievers were rated as Below average in French oral skills, 48% were rated as Average and 7% were rated as Above average in French oral skills. Thus, for both comprehension of French and oral skills in French, teachers tended to rate many children as Average when the psychometric test indicated that they were performing in the lowest quartile on this measure of French comprehension compared with their peers in the five-year-old French immersion kindergarten program.

Teachers were asked to rate the child's functioning level as early kindergarten, mid kindergarten, or ready for Grade one. Results of the Chi-square analysis of this variable for the high achievers and low achievers on the French Comprehension Test are also presented in Table 39. The significant Chi-square test was followed by one-sample Chi-square tests which revealed significant group differences for all three functioning levels. Teachers rated 92% of the high achievers as ready for Grade one. No child in the high achieving group was rated at the early kindergarten level. Only 36% of the low achievers were rated as ready for Grade one, while 23% were rated at the early kindergarten level. The remaining 42% of the low achievers were considered to be at the mid kindergarten level. Thus, 36% of the low achievers were considered to be ready for Grade one even though their French Comprehension Test scores were in the lowest quartile for their grade.

Early Identification Assessment Battery

High achievers and low achievers were compared in terms of their performance on the four-year-old kindergarten measures in T-test comparisons (SPSS SUBPROGRAM T-TEST, Nie et al., 1975). Means and standard deviations for these two groups are presented in Table 40 for those variables on which the T-test indicated

TABLE 40

Means, Standard deviations and T-scores for significant T-test comparisons of high and low achievers on the Early Identification Assessment Battery.

	High Achievers		Low Achievers			
	$\bar{X}$	SD	$\bar{X}$	SD	T-score	df
Age	5.0	0.3	4.8	0.3	2.52*	65.4
WPPSI VIQ	124.4	12.4	116.2	11.1	2.89**	66.0
FSIQ	123.8	11.4	117.9	10.7	2.20**	65.8
MATRICES Raw Score	18.6	5.9	15.9	4.0	2.20*	62.3
WRAT Arith. grade score	1.0	0.4	0.8	0.4	2.19*	64.3
FORMBOARD[Δ]:						
Total time	97.5	1.2	96.7	1.7	2.31*	65
Nondominant time	99.2	0.6	98.8	1.0	2.27*	65
Time per block (Nondom)	33.1	0.2	32.9	0.3	2.21*	65
COLOUR-NAMING	9.7	0.6	8.8	1.5	3.29**	66
WORD SEGMENTING:						
Total segmented	14.6	3.1	12.0	5.4	2.41*	66
Total (syllables)	10.3	3.2	7.7	3.7	3.08**	62.4
OBSERVER'S CHECKLIST:						
E: Attention	5.4	1.5	4.6	1.9	2.07*	60.2
RENFREW: Information	26.5	2.6	23.7	3.6	3.68**	66
Grammar	28.6	5.3	26.4	3.4	2.06*	66
CONNERS Teacher Rating:						
Inattentive-passive[+]	13.3	17.2	23.6	19.2	-2.33*	62.6
MYKLEBUST Pupil Rating Scale:						
Auditory Comprehension	14.2	3.2	12.4	2.3	2.77**	63
Spoken Language	17.4	3.2	15.5	2.8	2.54*	66
CIRCUS						
# 2: How Much & How Many	32.8	4.4	29.1	5.7	2.98**	57.5
# 5: Finding Letters and Numbers	18.2	1.6	16.6	3.7	2.25*	66
# 7: How Words Sound	40.4	3.1	38.6	3.3	2.36*	63.9
# 9: Listen to the Story	18.3	2.7	15.8	3.3	3.36**	59.8
#13: Think it Through	22.6	3.9	18.9	4.1	3.72**	64.2

Δ Higher scores represent better performance

\+ Higher scores indicate a greater incidence of problems.

* $p < .05$

** $p < .01$

significant differences between the groups. As can be seen from this table, high achievers and low achievers differed on several measures assessed at the end of the four-year-old kindergarten program. The low achievers were younger, and had a lower WPPSI Verbal and Full Scale IQ. Low achievers had greater difficulty on the Formboard measure, on all of the CIRCUS readiness measures, in expressive language skills in English, in word segmenting and colour-naming. Low achievers also received poorer behavior ratings from the Observers and teachers. In summary, at the end of four-year-old kindergarten, the high achievers were older, brighter, and better prepared for a five-year-old kindergarten program in terms of readiness skills and expressive language measures compared with low achievers.

Kindergarten Follow-up Assessment Battery

High achievers and low achievers were also compared in T-tests on measures obtained at the end of five-year-old French immersion kindergarten. Means and standard deviations are presented in Table 41 for the variables on which these groups differed significantly in T-test comparisons. Again, the low achievers were younger. In addition to poorer performance on the French Comprehension Test, the low achievers made a greater number of

TABLE 41

Means, standard deviations and T-scores for significant T-test comparisons of high and low achievers on the Kindergarten Follow-up Assessment Battery.

	High Achievers		Low Achievers			
	$\bar{X}$	SD	$\bar{X}$	SD	T-score	df
AGE	5.9	0.3	5.7	0.3	3.01**	65.8
FRENCH COMPREHENSION TEST:						
Raw score	34.7	2.8	16.3	2.7	27.98**	65.5
Percentile	83.8	6.3	13.8	7.9	40.14**	59.3
RENFREW: Grammar	29.2	5.7	24.4	5.8	3.39**	64.7
PICTURE-NAMING (French):						
Errors	93.9	2.7	88.1	2.8	8.62**	64.2
WRAT: Arithmetic grade score	1.7	0.7	1.3	0.5	2.77**	63.9
LETTER-NAMING (French)	10.0	3.3	6.2	4.1	4.19**	59.3
COUNTING/NAMING #s (French)	11.9	1.2	11.1	0.4	3.73**	66
CIRCUS:						
# 9: Listen to the Story	22.2	2.1	19.5	2.4	4.88**	61.7
#13: Think it Through	26.0	3.2	23.8	3.5	2.68**	62.9
OBSERVER'S CHECKLIST:						
E: Attention	5.7	1.4	4.5	1.2	3.86**	66
H: Effort	6.8	2.2	5.4	2.9	2.20*	56.6
CONNERS TEACHER RATING						
Inattentive-passive [1.]	14.3	16.5	25.7	25.6	-2.18*	65

1. Higher scores indicate a greater incidence of problems.

* $p < .05$

** $p < .01$

errors when naming pictures in French, when naming letters in French and when counting and identifying numbers in French. Grammatical structures in English were less well-developed among the low achievers, as were readiness skills involving listening comprehension and problem-solving. Low achievers were also rated by teachers as being more inattentive and passive and as putting forth less effort.

Summary of Comparisons of High and Low Achievers

Important differences were found between groups of children identified as high and low achievers on the basis of percentile scores on the French Comprehension Test. Low achievers were younger, less bright and were generally less well-prepared for a kindergarten program when assessed at the end of four-year-old kindergarten compared with high achievers. The advice of both four-year-old and five-year-old kindergarten teachers with regard to enrolment in French immersion was not found to be related to the child's performance on this measure. Teachers' ratings of French comprehension, French oral skills and functioning level were fairly consistent with performance on the French Comprehension Test for high achievers. However, teachers

tended to rate low achievers as ready for Grade one (36%), as average in the comprehension of French (52%) and as average in French oral skills (48%) even though they scored in the lowest quartile compared to their peers on a psychometric measure of the comprehension of French.

Achievement Groups Formed on the Basis of Five-year-old Kindergarten Teachers' Ratings of Achievement.

Five-year-old kindergarten teachers' ratings of achievement were considered to be an important measure of the child's level of achievement. Teachers rated the children as Below average, Average, or Above average in terms of their comprehension of French and their French oral skills. In addition, the teachers rated the child's overall functioning level as early kindergarten, mid kindergarten or ready for Grade one. Thus, three groups of varying levels of achievement could be formed on the basis of each of the three rating scales. These achievement groups will be examined in detail in the following sections. The relationship between the predictor measures obtained in the Spring of four-year-old kindergarten and the child's level of achievement as rated by

five-year-old kindergarten teachers was examined by computing Kendall's Tau non-parametric correlations (SPSS SUBPROGRAM NONPAR CORR., Nie et al., 1975) Following this analysis, the three achievement groups formed on the basis of the teachers' ratings of comprehension of French were examined in terms of the performance levels of these three groups on the measures obtained at the end of five-year-old kindergarten and at the end of four-year-old kindergarten, as well as teacher ratings at both grade levels. Similar analyses are presented for the achievement groups formed on the basis of teacher ratings of French oral skills and teacher ratings of the child's functioning level.

Nonparametric Correlations with Teachers' Ratings of Achievement

Kendall's Tau nonparametric correlations were computed for the five-year-old kindergarten teachers' ratings of comprehension of French, French oral skills and level of achievement and the measures of the Early Identification Assessment Battery administered in the Spring of four-year-old kindergarten. These correlations were computed for children who were enrolled in French immersion at the end of their five-year-old kindergarten year. Kendall's Taus are presented in Table 42 for the variables on which

TABLE 42

Nonparametric correlations (Kendall's Tau) among measures of the Early Identification Assessment Battery and five-year-old kindergarten Teachers' Ratings of Achievement.

	French Comprehension	French Oral Skills	Functioning Level
WPPSI: VIQ	.30		
FSIQ	.28		
WRAT: Arithmetic grade	.31	.30	
Reading percentile		.27	
Spelling percentile	.33	.42	
Arithmetic percentile	.39	.34	
COLOUR-NAMING	.29	.26	.32
CONNERS TEACHER RATING *			
Inattentive-passive	-.29	-.28	-.33
MYKLEBUST PUPIL RATING SCALE			
Auditory comprehension	.31	.28	
Spoken language	.33	.30	
CIRCUS:			
# 2: How Much and How Many	.31	.30	.26
# 7: How Words Sound	.37	.34	
# 9: Listen to the Story	.30		
#13: Think it Through	.30	.29	.25

* Higher scores indicate a greater incidence of problems.

this correlation coefficient was greater than or equal to .25.

Teachers rated the child's comprehension of French as Below average, Average or Above average. The WRAT Arithmetic percentile score (calculated for children who were at least 5 years of age when tested in four-year-old-kindergarten) was most highly related to the comprehension of French (Tau = .39). The WRAT Spelling percentile score correlated highly with French comprehension ratings (Tau = .33). CIRCUS #7: How Words Sound, a measure of auditory discrimination ability in English, yielded a Kendall's Tau of .37 with teachers' ratings of comprehension of French. Other CIRCUS tests were also related to teachers' ratings of French comprehension and included CIRCUS #2: How Much and How Many (Tau = .31); #9: Listen to the Story (Tau = .30); and #13: Think it Through (Tau = .30). WPPSI Verbal IQ (Tau = .30) and Full Scale IQ (Tau = .28) also correlated with the rating of French comprehension. Colour-naming correlated with French comprehension ratings (Tau = .29). Rating scales completed by the teachers were the only other variables which yielded a Kendall's Tau greater than .25. These included the Conners Teacher Rating of inattentive-passive behavior (Tau = .29), the

Myklebust ratings of auditory comprehension (Tau = .31) and of spoken language (Tau = .33).

Teachers' ratings of oral skills in French were most highly related to the WRAT Spelling percentile score (Tau = .42). The WRAT Arithmetic percentile score, WRAT Arithmetic grade score and WRAT Reading percentile score yielded Kendall's Taus ranging from .27 to .34. As was found for French comprehension ratings, ratings of oral skills in French were related to performance on the CIRCUS tests at the four-year-old kindergarten level. These included CIRCUS #2: How Much and How Many (Tau = .30); CIRCUS #7: How Words Sound (Tau = .34); and CIRCUS #13: Think it Through (Tau = .29). Also similar to the findings for the comprehension of French, French oral skills were correlated with Colour-naming (Tau = .26), Conners Teacher Ratings of inattentive-passive behavior (Tau = -.28) and Myklebust ratings of auditory comprehension (Tau = .28) and of spoken language (Tau = .30).

Kendall's Taus were computed between the teachers' ratings of the child's level of achievement as early kindergarten, mid kindergarten and ready for Grade one and the predictor measures obtained in four-year-old kindergarten. Only four of these Kendall's Taus exceeded .25. Conners Teacher Ratings of inattentive-

passive behavior (Tau = -.33), Colour-naming (Tau = .32), CIRCUS #2: How Much and How Many (Tau = .26), and CIRCUS #13: Think it Through (Tau = .25) were related to the teachers' ratings of the child's functioning level as rated by teachers in the Spring of five-year-old French immersion kindergarten.

Thus, ratings of achievement by teachers at the end of French immersion kindergarten were most highly related to readiness skills particularly in spelling and arithmetic, language abilities and behavior as judged by teachers. Children with higher ratings of inattentive-passive behavior received lower achievement ratings. Although the correlations were not high, they point to a relationship between teachers' ratings of achievement and performance levels assessed one year previously.

Comparisons of French Comprehension Achievement Groups

Kindergarten Follow-up Assessment Battery: Three achievement groups were formed on the basis of the five-year-old French immersion kindergarten teachers' ratings of comprehension of French. The extent of the agreement between the teachers' ratings of comprehension of French as Below average (n = 22), Average (n = 78)

and Above average (n = 55) and the children's performance on tests of achievement in French in the Spring of French immersion kindergarten was examined in one-way analyses of variance. Means, standard deviations, F Ratios and the results of Scheffé's multiple comparisons for scores obtained on French measures by these three groups are presented in Table 43. Teachers' ratings of comprehension of French corresponded quite well to the achievement scores obtained on the French Comprehension Test. One-way analyses of variance indicated significant differences among the groups for both the raw score and percentile measures for this test. Scheffé's multiple comparisons indicated that children rated as Above average in French comprehension obtained significantly higher scores than the Below average and Average groups on the French Comprehension Test. In addition, children rated as Average obtained scores significantly higher than those of the children rated as Below average. No significant group differences were found with regard to the speed of naming pictures in French. However, children rated as Above average in comprehension of French made significantly fewer errors in naming pictures than children rated as Below average. Children rated as Average also made significantly fewer

TABLE 43

Means, standard deviations, F Ratios and the results of Scheffé's for comparisons of three French comprehension achievement groups on French measures of the Kindergarten Follow-up Assessment Battery.

	Teachers' Ratings of Comprehension of French										
	1) Below Average			2) Average			3) Above Average				
	$\bar{X}$	SD	Sch[1]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	F Ratio	df
FRENCH COMPREHENSION TEST											
Raw score	18.4	4.1		24.2	5.9	1	31.1	5.0	1,2	51.12**	2,152
Percentile	22.2	15.1		47.0	24.0	1	71.2	17.2	1,2	49.57**	2,152
PICTURE-NAMING (French)*											
Speed	883.1	76.2		888.4	65.7		906.4	47.0		1.68	2,142
Errors	87.6	2.7		90.6	3.2	1	93.2	3.0	1,2	28.90**	2,151
LETTER-NAMING (French)	6.1	4.1		7.0	4.5		9.6	3.7	1,2	8.25**	2,152
COUNTING/NAMING NUMBERS (French)	10.9	0.8		11.1	1.1		11.8	1.1	1,2	8.03**	2,152

[1] Results of Scheffé's tests: list the number(s) of the group(s) with scores significantly lower, or poorer, than the score of the designated group.

* $p < .05$

** $p < .01$

* Higher scores represent better performance levels (subtracted from a constant).

errors than children rated as Below average. For both Letter-naming in French and counting and identifying numbers in French, children rated as Above average in comprehension of French scored significantly better than children rated as Average or Below average. Thus, teachers' ratings of French comprehension correspond closely to the children's performance on psychometric measures of competency in French.

These three achievement groups were compared in one-way analyses of variance on the remaining measures of the Kindergarten Follow-up Assessment Battery. The means, standard deviations, F Ratios and results of Scheffé's multiple comparisons are presented in Table 44 for variables where a significant difference among the groups was found. Children who were rated as Above average in comprehension of French by their teachers achieved significantly better scores than the children rated as Average or Below Average in terms of WRAT Arithmetic grade score, CIRCUS readiness measures of listening comprehension and problem-solving, Observer Checklist ratings and the Conners Teacher rating of inattentive-passive behavior. Both the Average and Above average groups performed significantly better than the Below average group in terms of Arithmetic scores,

TABLE 44

Means, standard deviations, F Ratios and the results of Scheffé's for significant comparisons of three French comprehension achievement groups on measures of the Kindergarten Follow-up Assessment Battery.

	Teachers' Ratings of French Comprehension										
	1) Below Average			2) Average			3) Above Average				
	$\bar{X}$	SD	Sch[1]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	F Ratio	df
PEABODY MA	6.7	0.8		7.3	1.2		7.7	1.3	1	6.49**	2,152
RENFREW: Information	22.3	5.2		24.2	4.5		25.4	3.3	1	4.41*	2,152
Grammar	24.2	5.6		26.9	5.2		28.8	6.0	1	5.72**	2,152
WORD SEGMENTING: Total segmented	14.0	4.3		14.5	3.0		15.5	1.2		3.21*	2,152
WRAT: Reading Percentile	63.2	19.2		71.8	19.2		76.1	16.8	1	3.88*	2,152
Arithmetic percentile	61.1	20.1		73.2	19.3	1	78.6	16.0	1	7.09**	2,152
Spelling grade level	1.1	0.2		1.2	0.3		1.3	0.3	1	3.58*	2,152
Arithmetic grade level	1.1	0.4		1.5	0.5	1	1.7	0.5	1,2	14.08**	2,152
CIRCUS: # 9: Listen to the Story	18.6	2.3		20.6	2.8	1	22.1	2.2	1,2	15.93**	2,152
#13: Think it Through	23.2	3.6		24.7	3.1		26.0	2.6	1,2	7.48**	2,152
OBSERVER CHECKLIST: B: Performance Rate	4.1	1.2		4.9	1.7		5.7	1.7	1,2	8.06**	2,152
B: Attention	4.5	1.3		5.1	1.6		5.7	1.2	1,2	7.40**	2,152
F: Anxiety	4.7	2.3		5.2	2.3		6.2	1.9	1,2	4.95**	2,152
G: Self-confidence	4.3	1.3		4.6	1.6		5.8	1.7	1,2	11.27**	2,152
H: Effort	5.1	2.6		5.3	2.9		7.1	2.0	1,2	9.56**	2,151
CONNERS TEACHER RATINGS + Conduct problem	13.2	20.4		8.8	16.0		3.8	8.6	1	3.72*	2,152
Inattentive-passive	43.3	25.2		22.6	24.2	1	11.6	14.8	1,2	17.26**	2,152
Hyperactivity	32.7	30.4		17.9	24.7	1	14.3	20.2	1	4.67	2,152

1. Results of Scheffé's tests: list the number(s) of the group(s) with scores significantly lower, or poorer, than the score of the designated group.

+ Higher scores indicate a greater incidence of problems.

* $p < .05$ ** $p < .01$

listening comprehension in English and teachers' ratings of inattentive-passive behavior and hyperactivity. In terms of academic achievement scores and expressive language skills in English, the Above average group performed significantly better than the Below average group. Thus, children who are not performing well in terms of French language skills are also performing at lower levels compared with the Above average group in many areas of competence including English language skills, academic achievement measured in English, readiness skills in English and behavior ratings.

Early Identification Assessment Battery: Performance levels on the measures of the four-year-old kindergarten Early Identification Assessment Battery were compared for the three achievement groups formed on the basis of French immersion kindergarten teachers' ratings of French comprehension. Means, standard deviations, F Ratios and the results of Scheffé's multiple comparisons are presented in Table 45 for the variables on which one-way analyses of variance revealed significant group differences. Children rated as Below average in French comprehension obtained scores significantly below those of the children rated as Above average on several measures including IQ, achievement levels in English, word segmenting, CIRCUS

TABLE 45

Means, standard deviations, F Ratios and the results of Scheffé's for significant comparisons of three French comprehension achievement groups on the Early Identification Assessment Battery.

	Teachers' Ratings of French Comprehension									
	1) Below Average			2) Average			3)Above Average			
	$\bar{X}$	SD	Sch[1]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	F Ratio[2]
WPPSI VIQ	110.5	7.9		119.3	12.2	1	123.9	11.1	1	11.19**
PIQ	112.0	10.1		115.6	12.2	1	119.9	11.0	1	4.29*
FSIQ	112.3	8.4		119.4	11.9		124.2	10.3	1,2	9.67**
PEABODY: MA	5.5	1.1		6.3	1.3		6.5	1.2	1	4.45*
WRAT: Reading grade	0.9	0.4		1.1	0.5	1	1.1	0.2	1	3.81*
Spelling grade	0.4	0.3		0.5	0.4		0.7	0.3	1	4.28*
Arithmetic grade	0.6	0.3		0.8	0.4	1	1.0	0.4	1,2	14.20**
PICTURE-NAMING[A]: time	143.3	26.6		125.9	28.3	1	119.1	25.2	1,2	6.12**
errors	10.4	3.8		8.5	3.7		8.1	3.2	1	3.41*
COLOUR-NAMING	8.6	1.4		9.3	1.4		9.7	0.6	1	6.83**
WORD SEGMENTING: Total	11.2	6.1		14.0	3.6	1	14.4	3.6	1	5.12**
OBSERVER'S CHECKLIST: E: Attention	4.1	1.7		5.1	1.6	1	5.3	1.4	1	4.91**
H: Effort	4.2	1.3		5.2	1.5	1	5.1	1.4	1	4.15*
J: Interest	4.4	1.0		5.1	1.4		5.3	1.2	1	4.31*
RENFREW: Information	24.5	3.7		25.0	3.1		26.5	3.0	1,2	4.82**

* $p < .05$ ** $p < .01$

Continued

TABLE 45 continued

	Teachers' Ratings of French Comprehension									
	1) Below Average			2) Average			3)Above Average			
	$\bar{X}$	SD	Sch[1.]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	F Ratio[2.]
CONNERS*: Inattentive-passive	32.9	22.4		19.2	16.7	1	12.8	17.0	1	10.03**
Hyperactivity	31.3	30.9		20.5	25.1		15.7	17.9	1	3.42*
MYKLEBUST: Auditory Comprehension	11.2	2.8		12.9	2.6	1	14.4	2.8	1,2	11.92**
Spoken language	14.6	3.0		15.6	2.6		17.3	3.0	1	10.00**
Motor coordination	9.0	1.7		9.5	1.8		10.2	2.0	1	4.29*
Personal Social Behavior	22.8	5.8		24.9	4.3		26.6	4.7	1	5.42**
CIRCUS: # 2: How Much and How Many	26.6	5.1		31.6	4.5	1	33.2	4.1	1	16.88**
# 5: Finding Letters and Numbers	15.3	4.2		17.0	3.3		18.2	1.5	1	8.29**
# 7: How Words Sound	36.8	2.3		39.8	3.1	1	41.3	2.4	1,2	20.31**
# 9: Listen to the Story	14.8	2.9		17.7	3.3	1	18.6	2.6	1	12.63**
#13: Think it Through	17.9	3.5		20.7	4.6	1	22.8	3.8	1,2	11.55**

1. Results of Scheffé's tests: list the number(s) of the group(s) with scores significantly lower, or poorer, than the score of the designated group.
2. Degrees of freedom = 2,152 for all comparisons.

♣ Higher scores represent better performance levels.

♦ Higher scores indicate a greater incidence of problems.

* $p < .05$

** $p < .01$

readiness measures, English language skills, picture and colour naming, and Observer and teacher ratings of behavior. The children rated as Average generally performed at a level between these two extreme groups. On the basis of these findings at the four-year-old kindergarten level, it appears that children who do not cope well in terms of the comprehension of French in French immersion kindergarten had lower levels of performance on a variety of predictor measures compared with children who do very well in French immersion. These findings are encouraging in terms of the expectation that achievement in the French immersion program may be predicted on the basis of measures obtained in four-year-old kindergarten.

Four-year-old Kindergarten Teachers' Ratings: The three groups formed on the basis of the teacher ratings of French comprehension were also compared in terms of the ratings by the four-year-old kindergarten teachers. Chi-square analyses of these groups on the variables of the four-year-old kindergarten Teacher Ratings form (see Appendix 6) indicated that there were significant differences in terms of ratings of ability and motivation, and advice regarding enrolment in French immersion five-year-old kindergarten. The results of these significant

Chi-square analyses and of the one-sample Chi-square tests computed to determine group differences on these variables are presented in Table 46.

As can be seen from this table, four-year-old kindergarten teachers advised French immersion enrolment for 67% of the children who were rated as Below average in the comprehension of French at the end of French immersion five-year-old kindergarten, for 63% of children rated as Average and for 89% of children rated as Above average. Significant differences in terms of the proportion of children for whom French immersion was not advised indicated that teachers had advised against French immersion enrolment for more children among the Below average and Average groups. However, teachers' advice regarding French immersion enrolment did not clearly discriminate among children achieving different levels of competency in French immersion kindergarten.

Group differences in terms of four-year-old kindergarten teachers' ratings of ability are very interesting. One-sample Chi-square tests indicated significant group differences among children rated as Above average in ability (see Table 46). Children of Above average ability tended to be rated as Above average (48%) or

TABLE 46

Chi-square analysis comparing three French comprehension achievement groups in terms of four-year-old kindergarten teachers' ratings.

	Teachers' Ratings of French Comprehension							
	Below Average		Average		Above Average			
	#	%	#	%	#	%	Chi^2	df
Four-year-old kindergarten teachers' advice re French immersion enrolment:								
Advised	12	66.7	41	63.1	40	88.9	2.80	2
Not advised	5	27.8	22	33.8	2	4.4	11.22**	2
Maybe	1	5.6	2	3.1	3	6.7	0.83	2
Statistical Analysis	$Chi^2 = 13.69$** (df = 4)							
Four-year-old kindergarten teachers' rating of ability:								
Below average	1	4.5	2	2.6	0	0.0	1.00	2
Average	16	72.7	42	54.5	19	35.2	5.45	2
Above average	5	22.7	33	42.9	35	64.8	6.51*	2
Statistical Analysis	Chi-square = 13.46** (df = 4)							
Four-year-old kindergarten teachers' rating of motivation:								
Below average	4	18.2	3	3.9	5	9.4	3.75	2
Average	14	63.6	56	72.7	25	47.2	3.37	2
Above average	4	18.2	18	23.4	23	43.4	5.53	2
Statistical Analysis	Chi-square = 13.34** (df = 4)							

* $p < .05$

** $p < .01$

average (45%) in French comprehension. Only 7% of children of Above average ability were rated as Below average in French comprehension. However, among the children rated as Below average in French comprehension, 73% were of Average ability while 23% were of Above average ability. This finding suggests that a child's ability level, as rated by four-year-old kindergarten teachers, does not reliably predict progress in the comprehension of French in French immersion kindergarten.

With regard to ratings of motivation, one-sample Chi-square tests failed to reveal significant group differences (see Table 46). Forty-three percent of children who were rated as Above average in their comprehension of French were also rated as being Above average in motivation, and 47% were rated as Average in motivation. However, 18% of children who were rated as Below average in French comprehension were rated as Above average in motivation and 23% of children rated as Average in French comprehension were rated as having Above average motivation. Among children who were highly motivated, 51% had Above average ratings of comprehension of French, but 9% were Below average and 40% were rated as Average in French comprehension at the end of five-year-old kindergarten. Thus, a child's level of motivation at the

four-year-old kindergarten level was not clearly related to progress in the comprehension of French in the five-year-old kindergarten program.

Five-year-old Kindergarten Teachers' Ratings: Five-year-old kindergarten teachers' ratings were also compared for the three French comprehension groups. Chi-square analyses revealed significant differences in terms of difficulties encountered in five-year-old kindergarten, special help required, the anticipation of the need for special help in the 1978-79 school year and recommendations regarding future enrolment in French immersion. Results of these analyses and one-sample Chi-square tests are presented in Table 47. Statistically significant group differences were found in terms of the five-year-old kindergarten teachers' report that the child encountered difficulties in this school program. Seventy-seven percent of children rated as Below average in the comprehension of French were reported to have had difficulties in this program. However, 23% of children rated as Below average in the comprehension of French were not reported to have encountered difficulties in the program. In contrast, 15% of children rated as Above average in the comprehension of French

TABLE 47

Chi-square analyses comparing three French comprehension achievement groups in terms of five-year-old kindergarten teachers' ratings.

	Teachers' Ratings of French Comprehension							
	Below Average		Average		Above Average			
	#	%	#	%	#	%	Chi^2	df
Difficulties in five-year-old kindergarten cf teachers:								
Yes	17	77.3	31	39.7	8	14.5	17.76**	2
No	5	22.7	47	60.3	47	85.5	10.08**	2
Statistical Analysis	$Chi^2 = 27.68^{**}$ (df = 2)							
Special help in five-year-old kindergarten?								
Yes	17	77.3	21	27.3	4	7.3	28.23**	2
No	5	22.7	56	72.7	51	92.7	10.59**	2
Statistical Analysis	$Chi^2 = 38.82^{**}$ (df = 2)							
Special help in school next year?								
Yes	14	73.7	21	27.3	3	5.5	25.52**	2
No	5	26.3	55	71.4	51	92.7	8.36*	2
Maybe	0	0	1	1.3	1	1.8	n.s.	
Statistical Analysis	$Chi^2 = 35.32^{**}$ (df = 4)							
Recommend future enrolment in French immersion?								
Yes	10	45.5	70	90.0	53	98.1		
No	12	54.5	7	9.1	0	0		
Undecided	0	0	0	0	1	1.9		
Statistical Analysis[1.]	$Chi^2 = 45.94^{**}$ (df = 4)							

* $p < .05$

** $p < .01$

1. Further analyses were not computed because many cells contained no responses.

reportedly encountered difficulties in the five-year-old kindergarten program.

Similar results were found in terms of children requiring special help in five-year-old kindergarten. Seventy-seven percent of children rated as Below average in the comprehension of French required special help compared with only 7% of children who were rated as Above average in French comprehension.

Teachers reported that 74% of children rated as Below average in their comprehension of French would likely require special help in their school programs in 1978-79. Only 6% of children rated as Above average in the comprehension of French were expected to need special help.

Five-year-old French immersion kindergarten teachers did not recommend French immersion enrolment for 55% of children rated as Below average in French comprehension, and for 9% of children rated as Average. Thus, for 10 children (46%) rated as Below average in French comprehension, French immersion enrolment was advised. As was evident with regard to low achievers on the French Comprehension Test, teachers did not advise against French immersion enrolment for some children who were not progressing well in terms of the comprehension of French.

Comparisons of French Oral Skills Achievement Groups

Kindergarten Follow-up Assessment Battery: Three achievement groups were formed on the basis of teachers' ratings of French oral skills at the end of five-year-old French immersion kindergarten. Performance levels on the psychometric measures of French achievement were compared in one-way analyses of variance for the children rated as Below average (n = 28), Average (n = 76) and Above average (n = 51) in French oral skills. Means, standard deviations, F Ratios and the results of Scheffé's multiple comparisons are presented in Table 48. Children rated as Above average significantly outperformed the Average and Below average children on all measures of French achievement with the exception of speed of picture-naming. Children rated as Average in French oral skills had significantly fewer errors in picture-naming and better French comprehension skills when compared with the children with Below average oral skills in French. Thus, teachers' ratings of French oral skills correspond to other measures of competency in the French language, especially for children who have Above average oral skills.

TABLE 48

Means, standard deviations, F Ratios and the results of Scheffé's for comparisons of three French oral skills achievement groups on French measures of the Kindergarten Follow-up Assessment Battery.

	Teachers' Ratings of French Oral Skills										
	1) Below Average			2) Average			3) Above Average				
	$\bar{X}$	SD	Sch[1]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	F Ratio	df
French Comprehension Test											
Raw score	20.2	5.7		24.7	6.2	1	30.6	5.2	1,2	31.81**	2,152
Percentile	29.4	21.6		47.7	24.8	1	69.7	18.5	1,2	31.67**	2,152
Picture-naming* (French)											
Speed	887.9	73.8		887.9	63.6		906.7	49.4		1.50	2,142
Errors	88.3	2.8		90.9	3.3	1	93.1	3.0	1,2	21.76**	2,151
Letter-naming (French)	5.8	4.2		7.1	4.4		9.9	3.5	1,2	11.31**	2,152
Counting/Naming Numbers (French)	10.8	0.9		11.2	1.1		11.7	1.2	1,2	7.78**	2,152

1. Results of Scheffé's tests: list the number(s) of the group(s) with scores significantly lower, or poorer than the score of the designated group.

* Higher scores represent better performance levels.

** $p < .01$

One-way analyses of variance were computed for the remaining variables of the Kindergarten Follow-up Assessment Battery. Means, standard deviations, F Ratios and the results of Scheffé's multiple comparisons are presented in Table 49 for the variables where a significant difference among the groups was found. As can be seen from this table, the children rated as Above average in French oral skills outperformed children rated as Below average in terms of English language skills, academic achievement in English, and readiness measures of listening comprehension and problem-solving. The Above average group also received better behavior ratings when compared with the Below average group. The Average group tended to perform at levels falling between the two extreme groups. Thus, as was found for teachers' ratings of French comprehension, children who did not perform well in terms of French language skills at the end of French immersion kindergarten, also performed at lower levels compared with the Above average group in many areas of competence measured in the English language.

TABLE 49

Means, standard deviations, F Ratios and the results of Scheffé's for significant comparisons of three French oral skills achievement groups on the Kindergarten Follow-up Assessment Battery.

		Teachers' Ratings of French Oral Skills									
		1) Below Average			2) Average			3) Above Average			
		$\bar{X}$	SD	Sch[1]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	F Ratio[2]
PEABODY:	MA	6.9	1.1		7.3	1.2		7.6	1.3	1	3.70*
REINFREW:	Information	22.5	5.0		24.2	4.5		25.6	3.3	1	4.96**
	Grammar	24.3	5.5		26.7	5.9		29.5	4.6	1,2	8.90**
WRAT:	Reading percentile	63.0	19.1		73.0	19.1		75.8	16.6	1	4.55*
	Arithmetic percentile	59.6	20.1		74.4	18.1	1	79.5	16.3	1	11.37**
	Spelling grade level	1.1	0.2		1.2	0.3		1.3	0.3	1	4.40*
	Arithmetic grade level	1.1	0.4		1.5	0.4	1	1.7	0.6	1,2	16.87**
CIRCUS:	# 9: Listen to the Story	18.9	2.4		21.0	2.9	1	21.8	2.2	1	11.84**
	#13: Think it Through	23.6	3.5		24.7	3.0		26.0	2.7	1	6.18**
OBSERVER CHECKLIST:	E: Performance rate	4.1	1.2		5.1	1.8	1	5.6	1.6	1	7.94**
	E: Attention	4.4	1.2		5.2	1.6	1	5.8	1.2	1	9.09**
	G: Self-confidence	4.5	1.3		4.6	1.7		5.8	1.7	1,2	10.18**
	H: Effort	5.4	2.5		5.1	2.9		7.3	1.9	1,2	12.13**
CONNERS TEACHER RATING *	Inattentive-passive	42.8	24.1		19.6	23.7	1	12.9	15.3	1	18.23**
	Hyperactivity	33.2	30.0		15.8	23.4	1	15.2	20.7	1	6.25**

1. Results of Scheffé's tests: list the number(s) of the group(s) with scores significantly lower, or poorer than the score of the designated group.
2. Degrees of freedom = 2,152 for all comparisons.

* Higher scores indicate a greater incidence of problems.

* $p < .05$ ** $p < .01$

Early Identification Assessment Battery: Performance levels on the measures of the four-year-old kindergarten Early Identification Assessment Battery were compared for the three achievement groups formed on the basis of French immersion kindergarten teachers' ratings of oral skills in French. Means, standard deviations, F Ratios and the results of Scheffé's multiple comparisons are presented in Table 50 for the variables on which one-way analyses of variance revealed significant group differences. The children rated as Below average in French oral skills obtained the lowest scores on all measures where significant group differences were found. These included measures of IQ, academic achievement, English language skills, colour and picture-naming, CIRCUS readiness measures and teacher behavior ratings. These findings again support the expectation that a set of variables predicting low achievement in French immersion will emerge from these studies.

Four-year-old Kindergarten Teachers' Ratings: The three groups formed on the basis of teachers' ratings of French oral skills were compared in terms of the ratings by four-year-old kindergarten teachers. Chi-square analyses of these ratings indicated significant

TABLE 50

Means, standard deviations, F Ratios and results of Scheffé's for significant comparisons of three French oral skills achievement groups on the Early Identification Assessment Battery.

	Teachers Ratings of French Oral Skills									
	1) Below Average			2) Average			3) Above Average			
	$\bar{X}$	SD	Sch[1]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	F Ratio[2]
WPPSI: VIQ	113.4	9.8		119.6	12.4		123.3	11.3	1	6.52**
PIQ	111.1	10.0		117.1	12.2		118.9	11.2	1	4.29*
PSIQ	113.5	8.7		120.4	12.2	1	123.3	10.5	1	7.07**
PEABODY: MA	5.7	1.2		6.3	1.3		6.5	1.2	1	3.18*
MATRICES (Percentile)	71.1	28.9		82.7	16.1	1	81.3	22.7		3.22*
WRAT: Reading grade	0.9	0.4		1.1	0.5	1	1.1	0.2	1	4.53*
Spelling grade	0.4	0.3		0.5	0.4		0.7	0.3	1	6.60**
Arithmetic grade	0.6	0.3		0.8	0.4	1	1.0	0.4	1,2	13.82**
Spelling percentile	26.0	18.4		40.6	21.4		58.3	18.9	1,2	10.10**
Arithmetic percentile	52.0	12.1		61.4	24.4		75.9	12.0	1,2	6.85**
PICTURE NAMING[A]: Time	142.9	27.5		125.6	27.8	1	117.1	24.3	1	8.30**
COLOUR NAMING	8.8	1.3		9.3	1.4		9.7	0.6	1	4.81**
WORD SEGMENTING: Total	11.4	5.9		14.1	3.4	1	14.4	3.6	1	6.06**

Continued

TABLE 50 Continued

	Teachers' Ratings of French Oral Skills									
	1) Below Average			2) Average			3) Above Average			
	$\bar{X}$	SD	Sch[1.]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	F Ratio[2.]
OBSERVER CHECKLIST: E: Attention	4.2	1.6		5.1	1.6	1	5.3	1.5	1	5.13**
H: Effort	4.3	1.3		5.3	1.5	1	5.1	1.4		4.59*
J: Interest	4.5	1.1		5.2	1.3		5.3	1.3	1	3.58*
RENFREW: Information	24.6	3.4		25.1	3.2		26.5	3.1	1	3.97*
CONNERS' Inattentive-passive	31.0	21.2		18.4	17.2	1	12.9	16.6	1	9.40**
MYKLEBUST: Auditory Comprehension	11.4	2.6		13.1	2.7	1	14.3	2.8	1	9.89**
Spoken Language	14.7	2.8		15.8	2.7		17.2	3.0	1,2	8.24**
Personal social behavior	23.0	5.5		25.3	4.6		26.3	4.5	1	4.31*
CIRCUS: # 2: How Much and How Many	27.6	5.0		31.8	4.6	1	33.1	4.3	1	13.79**
# 5: Knowledge of Letters & Nos.	15.6	3.9		17.0	3.3		18.2	1.5	1	7.36**
# 7: How Words Sound	37.1	2.8		40.1	3.0	1	41.2	2.5	1	19.40**
# 9: Listen to the Story	15.1	2.8		18.1	3.2	1	18.4	2.9	1	12.50**
#13: Think it Through	17.5	3.4		21.5	4.8	1	22.4	3.4	1	13.44**

1. Results of Scheffé's tests: list the number(s) of the group(s) with scores significantly lower, or poorer than the score of the designated group.

2. Degrees of freedom = 2,152 for all comparisons.

Δ Higher scores represent better performance levels.

+ Higher scores indicate a greater incidence of problems.

* $p < .05$

** $p < .01$

differences on two variables, namely, teachers' advice regarding French immersion enrolment and ratings of ability. The results of these analyses and one-sample Chi-square tests are presented in Table 51.

It can be seen from this table that significant group differences were found in terms of the distribution of children for whom French immersion was not advised. French immersion enrolment had not been advised for very few children (7%) who were rated as Above average in French oral skills. It was not advised for 36% of the children of Below Average French oral skills and for 28% of the Average group. Although teachers did recommend French immersion enrolment for 90% of the Above average achievement group, they also recommended enrolment for 59% of the Below average group. Thus, four-year-old kindergarten teachers' advice regarding French immersion enrolment was not found to be a reliable predictor of later achievement in French oral skills.

Significant group differences were found among children rated as Average or Above average in ability by their four-year-old kindergarten teachers (see Table 51). Children who were rated as Average or Above average in terms of French oral skills tended to

TABLE 51

Chi-square analyses comparing three French oral skills achievement groups in terms of four-year-old kindergarten teachers' ratings.

	Teachers' Ratings of French Oral Skills							
	Below Average		Average		Above Average			
	#	%	#	%	#	%	Chi^2	df
Four-year-old kindergarten teachers' advice re French immersion enrolment:								
Advised	13	59.1	43	66.2	37	90.2	2.54	2
Not Advised	8	36.4	18	27.7	3	7.3	7.52*	2
Maybe	1	4.5	4	6.2	1	2.4	0.83	2
Statistical Analysis	Chi square = 10.23* (df = 4)							
Four-year-old kindergarten teachers' ratings of ability:								
Below average	1	3.6	2	2.7	0	0.0	3.00	2
Average	21	75.0	38	50.7	18	36.0	6.03*	2
Above average	6	21.4	35	46.7	32	64.0	14.88*	2
Statistical Analysis	Chi square = 13.82** (df = 4)							

* $p < .05$

** $p < .01$

be of Average or Above average ability. However, among children rated as Below average in French oral skills, 21% were rated as Above average in ability at the end of four-year-old kindergarten. Thus, Above average ability as rated by teachers does not guarantee satisfactory development of French oral skills.

Five-year-old Kindergarten Teachers' Ratings: Five-year-old kindergarten teachers' ratings were also compared for the three groups formed on the basis of French oral skills as rated by these teachers. Chi-square analyses revealed significant differences in terms of difficulties encountered in the kindergarten program, the children requiring special help in kindergarten, the teachers' expectations that the child would require special help in the 1978-79 school year, and recommendations regarding future enrolment in French immersion. The results of these Chi-square analyses and of one-sample Chi-square tests to determine group differences are presented in Table 52. Statistically significant group differences were found in terms of children encountering difficulties in five-year-old French immersion kindergarten. Children rated as Below average in French oral skills tended to have

TABLE 52

Chi-square analyses comparing three French oral skills achievement groups in terms of five-year-old kindergarten teachers' ratings.

	Teachers' Ratings of French Oral Skills							
	Below Average		Average		Above Average			
	#	%	#	%	#	%	Chi^2	df
Difficulties in five-year-old kindergarten?								
Yes	22	78.6	24	31.6	10	19.6	18.99**	2
No	6	21.4	52	68.4	41	80.4	10.75**	2
Statistical Analysis	Chi square = 28.57** (df = 2)							
Special help in five-year-old kindergarten?								
Yes	20	71.4	16	21.3	6	11.8	24.30**	2
No	8	28.6	59	78.7	45	88.2	10.57**	2
Statistical Analysis	Chi square = 35.04** (df = 2)							
Special help in school next year?								
Yes	19	76.0	16	21.3	3	5.9	30.49**	2
No	6	24.0	58	77.3	47	92.2	11.26**	2
Maybe	0	0.0	1	1.3	1	2.0	1.00	2
Statistical Analysis	Chi square = 45.03** (df = 4)							
Recommend future enrolment in French immersion?								
Yes	13	48.1	71	93.4	49	98.0		
No	14	51.9	5	6.6	0	0		
Undecided	0	0	0	0	1	2.0		
Statistical Analysis [1.]	Chi^2 = 49.91** (df = 4)							

1. Further analyses were not computed because many cells contained no responses.

* $p < .05$

** $p < .01$

difficulties in the program. Fewer children rated as Above average in French oral skills were reported to have difficulties - 20% of these children had encountered difficulty in the program.

Similarly, the highest representation of children requiring special help in kindergarten was found among the children rated as Below average in French oral skills, while the majority of children rated as Above average or Average in French oral skills progressed well without special help.

Teachers reported that they expected 76% of the children rated Below average in French oral skills to need special help during the 1978-79 school year. In contrast, only 6% of children with Above average French oral skills were expected to need special help.

Teachers recommendations with regard to future enrolment in French immersion were not strongly related to the child's progress in oral skills in French. Teachers recommended enrolment in French immersion for 13 children (48%) who were rated as Below average in French oral skills.

Comparisons of Kindergarten Achievement Groups

Kindergarten Follow-up Assessment Battery: Another three achievement groups were formed on the basis of the five-year-old kindergarten teachers' ratings of the child's level of achievement as early kindergarten (n = 11), mid kindergarten (n = 47) or ready for grade one (n = 97). Performance levels on the psychometric measures of French achievement administered in the Spring of five-year-old kindergarten were compared in one-way analyses of variance. Means, standard deviations, F Ratios and the results of Scheffé's multiple comparisons are presented in Table 53. Statistically significant differences were found among these groups on the French Comprehension Test and Picture-naming in French (errors). Children rated as ready for Grade one significantly outperformed the early kindergarten and mid kindergarten groups on the French Comprehension Test. The mid kindergarten group also outperformed the early kindergarten group on this measure (percentile). In terms of errors in Picture-naming, children rated as ready for Grade one significantly outperformed the early kindergarten group. Thus, teachers' ratings of the child's functioning level were related to performance on the French Comprehension Test, but not to most other measures of competency in French.

TABLE 53

Means, standard deviations, F Ratios and results of Scheffé's for comparisons of three kindergarten achievement groups on French measures of the Kindergarten Follow-up Assessment Battery.

	Teachers' Ratings of Kindergarten Achievement Level									
	1) Early Kindergarten			2) Mid Kindergarten			3) Ready for Grade 1			
	$\bar{X}$	SD	Sch[1]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	F Ratio[2]
FRENCH COMPREHENSION TEST										
Raw score	18.0	4.1		23.1	6.0		28.0	6.5	1,2	19.62**
Percentile	20.6	17.2		41.4	24.1	1	60.1	24.0	1,2	20.05**
PICTURE-NAMING ◆ (French)										
Speed	868.5	89.0		882.8	75.1		902.8	48.1		2.65
Errors	87.6	1.4		90.4	3.7		91.9	3.4	1	9.05**
LETTER-NAMING (French)	6.4	3.4		6.9	3.8		8.3	4.6		2.22
COUNTING/NAMING NUMBERS (French)	10.6	1.1		11.1	0.9		11.5	1.2		4.40*

1. Results of Scheffé's tests: list the number(s) of the group(s) with scores significantly lower, or poorer, than the score of the designated group.
2. Degrees of freedom = 2,152 for all comparisons.

◆ Higher scores represent better performance levels.

* $p < .05$

** $p < .01$

One-way analyses of variance computed for the remaining variables of the five-year-old Kindergarten Follow-up Assessment Battery indicated significant differences among the three groups formed on the basis of teacher ratings of level of functioning. Means, standard deviations, F Ratios and the results of the Scheffé's multiple comparisons are presented in Table 54 for the variables on which the one-way analysis of variance was significant. Children rated as ready for Grade one significantly outperformed the children functioning at the early kindergarten level in terms of their academic achievement in reading, readiness skills of listening comprehension and problem-solving, teacher behavior ratings and observer ratings. Children rated at the mid kindergarten level by teachers performed more poorly than the group of children rated as ready for Grade one on the CIRCUS readiness measures of listening comprehension and problem-solving and in terms of the teacher rating of inattentive-passive behavior. The mid kindergarten group received a better rating in terms of classroom behavior as compared to children rated at the early kindergarten level.

TABLE 54

Means, standard deviations, F Ratios and results of Scheffé's for comparisons of three kindergarten achievement groups on the Kindergarten Follow-up Assessment Battery.

	Teachers' Ratings of Kindergarten Achievement Level									
	1) Early Kindergarten			2) Mid Kindergarten			3) Ready for Grade 1			
	$\bar{X}$	SD	Sch[1]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	F Ratio[2]
WRAT - Reading Percentile	58.2	22.2		68.9	20.6		75.2	16.4	1	5.39**
CIRCUS: # 9: Listen to the Story	18.5	2.4		20.2	3.0		21.5	2.5	1,2	8.26**
#13: Think it Through	22.8	3.8		23.9	3.4		25.7	2.7	1,2	8.43**
OBSERVER CHECKLIST										
B: Performance Rate	3.5	0.9		5.0	1.5	1	5.3	1.7	1	5.55**
E: Attention	4.3	1.0		4.9	1.2		5.5	1.5	1	4.78**
F: Anxiety	3.9	2.6		5.4	2.2		5.7	2.1	1	3.49*
CONNERS TEACHER + Conduct problem	24.7	23.8		7.2	14.5	1	5.9	12.6	1	8.71**
Inattentive-passive	49.4	22.4		29.5	28.0	1	14.6	17.3	1,2	17.63**
Hyperactivity	46.4	30.2		19.5	24.9	1	15.2	22.0	1	8.67**

1. Results of Scheffé's tests: list the number(s) of the group(s) with scores significantly lower, or poorer, than the score of the designated group.
2. Degrees of freedom — 2,152 for all comparisons.

+ Higher scores indicate a greater incidence of problems.

* $p < .05$

** $p < .01$

Early Identification Assessment Battery: Performance levels on the measures of the four-year-old kindergarten Early Identification Assessment Battery were compared for the three groups formed on the basis of the teachers' ratings of present functioning level. Means, standard deviations, F Ratios and the results of Scheffé's multiple comparisons are presented in Table 55 for the variables on which one-way analyses of variance revealed significant group differences. Children rated as ready for Grade one in the Spring of their five-year-old kindergarten year significantly outperformed children rated as functioning at the beginning kindergarten level on many measures obtained in the Spring of the four-year-old kindergarten year. These measures included IQ, receptive language skills in English, WRAT arithmetic grade score, picture and colour naming, CIRCUS readiness measures and teacher ratings of behavior. Children functioning at the mid kindergarten level outperformed children functioning at the beginning kindergarten level on measures of receptive vocabulary skills in English, picture-naming, some CIRCUS readiness measures and teacher ratings of behavior. It is interesting to note that on the Renfrew Action Picture Test, a measure of expressive

TABLE 55

Means, standard deviations, F Ratios and results of Scheffé's for significant comparisons of three kindergarten achievement groups on the Early Identification Assessment Battery.

	Teachers' Ratings of Kindergarten Achievement Level									
	1) Early Kindergarten			2) Mid Kindergarten			3) Ready for Grade 1			
	$\bar{X}$	SD	Sch[1]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	F Ratio[2]
WPPSI: VIQ	110.6	9.5		118.2	11.9		121.4	11.9	1	4.70*
FSIQ	111.6	10.0		118.6	12.3		121.8	10.8	1	4.60*
PEABODY: MA	5.0	1.2		6.3	1.2	1	6.3	1.3	1	5.43**
IQ	103.2	11.8		116.7	14.5	1	115.1	13.3	1	4.56*
WRAT: Arithmetic grade	0.6	0.3		0.7	0.4		0.9	0.4	1,2	7.65**
PICTURE-NAMING[A]: Errors	11.6	4.8		8.3	3.8	1	8.5	3.2	1	4.34*
COLOUR-NAMING	8.3	1.4		8.9	1.8		9.6	0.7	1,2	10.34**
OBSERVER CHECKLIST: D: Amount of speech	4.1	1.8		5.6	1.8	1	5.6	1.5	1	4.50*
E: Attention	4.0	1.3		4.7	1.7		5.3	1.5	1	4.52*
RENFREW: Information	25.0	3.9		24.5	3.1		26.0	3.2	2	3.77*
Grammar	27.3	4.6		26.1	3.1		28.1	4.7	2	3.55*
CONNERS[*] Conduct Problem	25.3	28.0		9.1	14.2	1	7.7	11.9	1	7.61**
Inattentive-passive	38.9	17.4		25.1	19.6	1	13.8	16.3	1	12.94**
Hyperactivity	41.9	32.6		22.5	24.7	1	16.8	21.6	1	5.95**

Continued

TABLE 55 Continued

	Teachers' Ratings of Kindergarten Achievement Level									
	1) Early Kindergarten			2) Mid Kindergarten			3) Ready for Grade 1			
	$\bar{X}$	SD	Sch[1.]	$\bar{X}$	SD	Sch	$\bar{X}$	SD	Sch	F Ratio[2.]
MYKLEBUST: Auditory Comprehension	10.6	3.3		12.9	2.8	1	13.6	2.7	1	6.23**
Personal Social behavior	21.3	5.9		24.9	4.8		25.8	4.5	1	4.86**
CIRCUS:										
# 2: How Much and How Many	25.0	6.4		30.6	4.9	1	32.6	4.1	1	15.13**
# 5: Finding Letters and Numbers	14.4	4.7		16.3	4.0		17.9	1.9	1,2	10.41**
# 7: How Words Sound	36.5	2.1		39.7	3.6	1	40.4	2.7	1	8.46**
# 9: Listen to the Story	15.4	3.1		17.4	3.7		18.0	2.9	1	3.63*
#13: Think it Through	18.1	4.0		19.5	4.8		22.2	4.0	1,2	9.14**

1. Results of Scheffé's tests: list the number(s) of the group(s) with scores significantly lower, or poorer, than the score of the designated group.

2. Degrees of freedom = 2,152 for all comparisons.

▲ Higher scores represent better performance levels.

• Higher scores indicate a greater incidence of problems.

* $p < .05$

** $p < .01$

language skills in English, children rated as ready for Grade one significantly outperformed children at the mid kindergarten level, while performance levels for children at the beginning kindergarten level did not differ significantly compared with these two groups. On the basis of the differences outlined above, it appears that children who perform well in the five-year-old French immersion kindergarten program are brighter and more advanced in readiness skills and classroom behavior than children who are still functioning at the early kindergarten level at the end of their five-year-old French immersion kindergarten program. The differences found among these groups before enrolment in the five-year-old French immersion kindergarten program suggest that such differences may eventually be used to predict a group of children who do not progress well in the program.

Four-year-old Kindergarten Teachers' Ratings:

The three groups based on teachers' ratings of functioning level were also compared in terms of the ratings by four-year-old kindergarten teachers. Chi-square analyses indicated significant differences in terms of the teachers' advice regarding French immersion enrolment and the teachers' ratings of ability. Results

of these Chi-square analyses and of one-sample Chi-square tests to determine group differences are presented in Table 56. The one-sample Chi-square tests did not reveal significant group differences in terms of the teachers' advice regarding French immersion enrolment. However, it is interesting to note that teachers advised French immersion enrolment for all children who were rated at the early kindergarten level by the five-year-old kindergarten teacher. French immersion enrolment was not advised for 18% of the children who were rated as ready for Grade one in the Spring of the five-year-old kindergarten program. Thus, the advice of four-year-old kindergarten teachers is not a reliable predictor of a child's progress in the five-year-old French immersion kindergarten program.

Significant group differences were found in terms of the teacher ratings of Above average ability. Among the children of Above average ability, only one child was rated at the early kindergarten level in the Spring of five-year-old kindergarten. The majority of children with Above average ability were rated as ready for Grade one. This relationship between the four-year-old kindergarten teachers' ratings of ability and the five-year-old kindergarten teachers' ratings of

TABLE 56

Chi-square analyses comparing three kindergarten achievement groups in terms of four-year-old kindergarten teachers' ratings.

	Teachers' Ratings of Kindergarten Achievement Level							
	1)-Early Kindergarten		2) Mid Kindergarten		3) Ready for Grade 1			
	#	%	#	%	#	%	Chi^2	df
Four-year-old kindergarten teachers' advice re French immersion enrolment:								
Advised	7	100.0	25	64.1	61	74.4	1.17	2
Not advised	0	0.0	14	35.9	15	18.3	5.78	2
Maybe	0	0.0	0	0.0	6	7.3	4.50	2
Statistical Analysis	Chi square = 9.81* (df = 4)							
Four-year-old kindergarten teachers' rating of ability:								
Below average	0	0.0	2	4.3	1	1.0	3.00	2
Average	10	90.9	27	58.7	40	41.7	5.07	2
Above average	1	9.1	17	37.0	55	57.3	6.46*	2
Statistical Analysis	Chi square = 14.04** (df = 4)							

* $p < .05$

** $p < .01$

the child's functioning level at the end of the five-year-old kindergarten program, suggests that children of high ability are likely to make better overall progress in the five-year-old kindergarten program.

Five-year-old Kindergarten Teachers Ratings: Five-year-old kindergarten teachers' ratings were also compared for the three groups formed on the basis of the French immersion kindergarten teachers' ratings of functioning level. Chi-square analyses revealed significant differences in terms of difficulties encountered in five-year-old French immersion kindergarten, special help needed in five-year-old kindergarten and teachers' anticipation of the child's requirements for special help in the 1978-79 school year. The results of these analyses and of one-sample Chi-square tests are presented in Table 57. Statistically significant group differences were found with regard to difficulties encountered in the five-year-old kindergarten program. Sixty-four percent of children who were functioning at the early kindergarten level were noted to have encountered difficulties in the kindergarten program. However, 36% of children rated

TABLE 57

Chi-square analyses comparing three kindergarten achievement groups in terms of five-year-old kindergarten teachers' ratings.

	Teachers' Ratings of Kindergarten Achievement Level							
	Early Kindergarten		Mid Kindergarten		Ready for Grade 1			
	#	%	#	%	#	%	Chi^2	df
Difficulties in five-year-old kindergarten?								
Yes	7	63.6	27	57.4	22	22.7	12.96**	2
No	4	36.4	20	42.6	75	77.3	7.35*	2
Statistical Analysis	Chi square = 20.46** (df = 2)							
Special help in five-year-old kindergarten?								
Yes	8	72.7	21	45.7	13	13.4	20.98**	2
No	3	27.3	25	54.3	84	86.6	7.79*	2
Statistical Analysis	Chi square = 28.70** (df = 2)							
Special help next year?								
Yes	8	72.7	18	40.9	12	12.5	20.04**	2
No	3	27.3	26	59.1	82	85.4	6.36*	2
Maybe	0	0.0	0	0.0	2	2.1	2.00	2
Statistical Analysis	Chi square = 27.78** (df = 4)							

* $p < .05$
** $p < .01$

at the early kindergarten level did not encounter difficulties in this program. Seventy-seven percent of children rated as ready for Grade one had not encountered difficulties in the program. Although 23% of these children were reported to have encountered difficulties in the five-year-old kindergarten program, they appeared to have overcome these difficulties and were progressing well in the Spring of the kindergarten year.

Significant group differences in terms of the child's need for special help in the five-year-old kindergarten program indicated that children who were rated at the early kindergarten level required special help in contrast to children who were rated as ready for Grade one. Again, with regard to the teachers' anticipation that the child would require special help in the 1978-79 school year, a greater proportion of children rated at the early kindergarten level were expected to require such help. However, it is interesting to note that teachers reported that 13% of children rated as ready for Grade one may require special help during the following school year.

SUMMARY AND CONCLUSION

One hundred and eighty-four of the 200 children assessed in the Spring of the four-year-old kindergarten year (1977) were reassessed in the Spring of five-year-old kindergarten (1978). One hundred and fifty-nine of these children were enrolled in a five-year-old French immersion kindergarten program at the time of the kindergarten follow-up assessment.

Parents of eleven children had opted for a regular five-year-old English kindergarten because they felt that the children were not ready for French immersion, or it was not conveniently available. Six children had been transferred from the French immersion program to an English program during the five-year-old kindergarten year. In most cases, parents did not make this decision on the basis of particular learning difficulties encountered by the children, but rather on the basis of dissatisfaction with the situation of bussing or with specific aspects of the school program (e.g. in their opinion a lack of creativity, lack of emphasis on basic skills, lack of materials). Seven children were enrolled in a bilingual program. Parents had opted for this program because it offered additional support in the English language and/or it was located in a neighbourhood school.

Parents tended to express positive attitudes towards the French immersion program. The majority of parents (n = 103) had no concerns about the program. Although the parents of 26 children intended to enrol the children in an English Grade one program and parents of three children opted for a bilingual Grade one program, most parents considered the possibility of enrolment in French immersion in the future. This indicated a positive attitude towards the goal of learning French during the early grades.

The four kindergarten enrolment groups were compared in terms of information obtained in the initial and follow-up assessments.

Four-year-old kindergarten teachers' ratings did not discriminate significantly among the four kindergarten enrolment groups. However, children who had transferred to the English program tended to receive a greater proportion of low ratings in ability. French immersion was not advised for a greater proportion of children who were enrolled in English or who transferred to English.

Five-year-old kindergarten teachers did not recommend French immersion enrolment for 19 children (12%) who completed the five-year-old French immersion kindergarten program. Thus, these children appear to have encountered

substantial difficulty in the program. The reasons cited by teachers when advising for or against French immersion enrolment were examined. While teachers considered a child's ability level to be important when advising against French immersion enrolment, a child's level of maturity was considered to be highly important as well. The child's ability level was cited most frequently when French immersion was advised. These findings are similar to the results reported by Trites and Price (1978). Four-year-old kindergarten teachers were found to emphasize the child's social and emotional development when advising against French immersion and to consider the level of ability to be of greatest importance when making the decision to advise French immersion enrolment.

Teachers' reports of difficulty in kindergarten indicated that approximately half of the children in the English program, half of the Transfers and one third of children in French immersion experienced difficulty. The main reason for difficulty was a combination of immaturity and emotional-social adjustment problems. Thus, a child's level of emotional and social adjustment is an important factor associated with progress in the five-year-old kindergarten program as judged by kindergarten teachers.

The four kindergarten enrolment groups were compared on the measures of the Early Identification Assessment Battery. On the whole, children enrolled in the bilingual program had higher IQ scores and performed well on all tests administered. The children who had enrolled in the regular English program and the children who transferred to the English program tended to have lower IQ scores, although they were within the average to high average range, and to have generally lower scores on the variables of the Early Identification Assessment Battery.

Few significant group differences were found on the measures of the Kindergarten Follow-up Assessment Battery. The Transfers fared less well than the others, perhaps as a result of adjusting to two school programs during the school year. Five-year-old kindergarten teachers' ratings of functioning level indicated generally similar progress for the four groups, with the exception of children in the bilingual program who were all rated as ready for Grade one. Thirty-seven percent of children in French immersion, 27% of children in the English program and 40% of Transfers were rated at the early to mid kindergarten level.

The 159 children who were in French immersion kindergarten in the Spring of 1978 were considered in detail

to determine the predictive validity of measures obtained in the Spring of 1977. Forward step-wise multiple linear regression analyses and Pearson product-moment correlations were computed for 35 predictor variables of the Early Identification Assessment Battery and 11 criterion variables of the Kindergarten Follow-up Assessment Battery. Better prediction was accomplished for measures of English language achievement than for measures of French language achievement. The best prediction was found for the Wide Range Achievement Test reading percentile score. Prediction of achievement in French and English were related to similar measures including colour and picture-naming in English, readiness measures of quantitative concepts and knowledge of letters and numbers, WRAT arithmetic scores, expressive language skills in English and behavior ratings by observers and teachers. It is interesting to note that academic achievement in reading, spelling and arithmetic measured in English was best predicted by IQ. IQ was of greater importance when predicting achievement in measures in the English language than when predicting achievement in French. In addition, tactual performance (Formboard) test scores entered into multiple regression equations for French measures but not for English language measures.

Although much of the variance was left unaccounted for in the evaluations of the predictive validity of four-year-old kindergarten measures, the relationships established at the five-year-old kindergarten level are encouraging. Much more variation in academic progress is expected to be evident in the Grade one program where structured learning situations are more demanding. Thus, it is expected that the measures obtained at the end of four-year-old and five-year-old kindergarten will have greater predictive validity when they are assessed against criterion measures obtained in the Spring of Grade one.

Further encouraging results with regard to the prediction of achievement in French immersion were found in comparisons of groups of high and low achievers formed on the basis of percentile scores on the French Comprehension Test. Important differences were found between these groups on measures of the Early Identification Assessment Battery and of the Kindergarten Follow-up Assessment Battery. Low achievers were younger, had lower IQ scores, had lower scores on the tactual performance test (Formboard) and were generally less well-prepared for a kindergarten program compared with high achievers when they were assessed at the end of four-year-old kindergarten. At the end of five-year-

old French immersion kindergarten, high achievers outperformed low achievers on several measures including achievement in French, readiness skills of listening comprehension and problem-solving and English grammar skills.

An important finding in the comparisons of high and low achievers on the French Comprehension Test was the analysis of four- and five-year-old kindergarten teachers' advice regarding French immersion enrolment. At both grade levels, the teachers' advice was not strongly related to achievement on the French Comprehension Test at the end of five-year-old French immersion kindergarten. Four-year-old kindergarten teachers advised French immersion enrolment for 74% of low achievers and five-year-old kindergarten teachers advised enrolment for 77% of low achievers. This finding is further indication that the informal selection procedures applied to decisions regarding French immersion enrolment need to be validated. The evidence from the present study suggests that teachers' advice is not a reliable selection procedure and that screening measures need to be validated as predictors of success and failure in the French immersion program.

Five-year-old kindergarten teachers' ratings of French comprehension, oral skills in French and functioning

level were fairly consistent with performance on the French Comprehension Test for the high achievers. However, teachers tended to rate low achievers as ready for Grade one (36%), as Average in the comprehension of French (52%), and as Average in French oral skills (48%) even though they scored within the lowest quartile for their grade on the French Comprehension Test.

When the five-year-old kindergarten teachers' ratings of achievement were correlated (Kendall's Tau nonparametric correlations) with measures obtained at the end of four-year-old French immersion kindergarten, they were found to be most highly related to readiness skills particularly in spelling and arithmetic, language abilities and behavior as judged by teachers. Although the correlations were not high, they point to a relationship between teachers' ratings of achievement and performance levels assessed one year previously.

Further investigation of achievement groups formed on the basis of five-year-old kindergarten teachers' ratings of French comprehension and of oral skills in French indicated that children who were not performing well as rated by the teacher were also performing at lower levels compared with children rated as Above average in terms of psychometric measures of achievement in French and in other areas of competence including

English language skills, academic achievement and readiness skills measured in English as well as behavior ratings. In addition, the children rated as Below average by teachers performed at significantly lower levels than children rated as Above average on several measures of the Early Identification Assessment Battery. Thus, it appears that children who do not cope well in terms of achievement in the French language in French immersion kindergarten had lower levels of performance on a variety of predictor measures compared with children who do very well in French immersion. These findings support the expectation that a set of variables predictive of success or failure in French immersion will emerge from this series of studies.

Similarly, children rated as functioning at the early kindergarten level, mid kindergarten level or ready for Grade one differed in performance levels on four-year-old kindergarten measures. Children who performed well in French immersion kindergarten were brighter and more advanced in readiness skills and classroom behavior than children who were functioning at the early kindergarten level at the end of five-year-old French immersion kindergarten. These findings indicate that such differences may eventually be used

to predict a group of children who will not progress well in the French immersion program.

The Kindergarten Follow-up Assessment indicated the need to validate a set of variables predictive of success or failure in primary French immersion. Informal selection procedures were not closely related to a child's achievement in French immersion. Significant differences found among groups of children enrolled in various kindergarten programs, among high achievers and low achievers on the French Comprehension Test, and among various achievement groups formed on the basis of teacher ratings at the end of five-year-old French immersion kindergarten indicated that measures obtained in four-year-old kindergarten were related to achievement. Correlational analyses and multiple linear regression analyses also pointed to relationships between predictor and criterion variables.

In the next phase of this study, the predictive validity of the Early Identification Assessment Battery administered in four-year-old kindergarten will be assessed in the light of achievement in French and English in the Grade one French immersion program. The greater academic demands of the Grade one program, in contrast to kindergarten, are expected to yield greater variability in achievement and outcomes at this level will be used to

validate the predictive value of earlier measures. In addition, the predictive validity of the Kindergarten Follow-up Assessment Battery will be assessed in terms of achievement in the Grade one program. The preliminary follow-up indicates that a set of variables predictive of success or failure in primary French immersion will be validated and that guidelines for choosing a school program can be developed for parents and teachers.

REFERENCES

Adelman, H., Feshbach, S. & Fuller, W. Early Identification of educational and mental health problems. Proceedings of the 81st Annual Convention of the American Psychological Association, 1973.

Attwell, A.A., Orpet, R.E. & Meyers, C.E. Kindergarten Behavior Ratings as a Predictor of Academic Achievement. Journal of School Psychology, 1967, 6, 43-46.

Barik, H.C. French Comprehension Test, Primer. Toronto: Ontario Institute for Studies in Education, 1977.

Barrett, T.C. The relationship between measures of prereading visual discrimination and first grade reading achievement. A review of literature. Reading Research Quarterly, 1965, 1(1), 51-76.

Blishen, B.R. and McRoberts, H.A. A Revised Socioeconomic Index for Occupations in Canada. Canadian Review of Sociology and Anthropology, 13, 1976, 71-79.

CIRCUS: An Assessment Program for Pre-primary Children. Princeton, New Jersey: Educational Testing Service, 1974.

Conners, C.K. A teacher rating scale for use in drug studies with children. American Journal of Psychiatry, 1969, 126, 152-156.

deHirsch, K. and Jansky, J.J. Predicting Reading Failure. New York: Harper and Row, 1966.

Dunn, L. Peabody Picture Vocabulary Test (Expanded Manual). Circle Pines: American Guidance Service Inc., 1965.

Dykstra, R. Auditory discrimination abilities and beginning reading achievement. Reading Research Quarterly, 1965, 1(3), 5-34.

Edwards, H.P. and Smyth, F. Evaluation of Second Language Programs and Some Alternatives for Teaching French as a Second Language in Grades Five to Eight. Toronto: Ministry of Education, Ontario, 1976.

Faust, M. Cognitive and language factors. In B.K. Keogh (ed.). Early Identification of children with potential learning problems. Journal of Special Education, 1970, 4, 335-346.

Ferinden, W.F., Jacobson, S. and Linden, N.J. Early Identification of Learning Disabilities. Journal of Learning Disabilities, 1970, 3, 589-593.

Fox, B. and Routh, D. Analyzing Spoken Language Into Words, Syllables and Phonemes: A Developmental Study. Journal of Psycholinguistic Research, 1975, 4, 331-342.

Goodstein, H.A., Owen, S. and Cawley, J.F. "The Prediction of Elementary School Failure Among High Risk Children". Paper presented at Annual AERA Meeting in Washington, D.C., April, 1975.

Hopkins, K.D. & Sitkei, E.G. Predicting Grade One Reading Performance: Intelligence vs. Reading Readiness Tests. Journal of Experimental Education, 1969, 37, 31-33.

Huberty, C.J. & Swan, W.J. Preschool Classroom Experience and First Grade Achievement. Journal of Educational Research, 1974, 67, 311-316.

Jastak, J.F. & Jastak, S.R. The Wide Range Achievement Test. Manual of Instructions. Wilmington, Delaware: Guidance Associates, 1965.

Keogh, B.K. & Smith, C.E. Early Identification of Educationally High Potential and High Risk Children. Journal of School Psychology, 1970, 8, 285-290.

Kohlberg, L., LaCrosse, J. and Ricks, D. The predictability of adult mental health from childhood behavior. In Wolman, B.B. (ed.). Manual of Child Psychopathology, Toronto: McGraw-Hill, 1972.

Koppitz, E.M., Sullivan, J., Blyth, D.D. & Shelton, J. Prediction of first grade school achievement with the Bender Gestalt Test and human figure drawings. Journal of Clinical Psychology, 1959, 15, 164-168.

Lokan, J., Halpern, G., Day, J. and Brooks, D. The Effects of Early Childhood Educational Experience on Grade One Performance. Research Centre, OBE, Ottawa: April 1976.

Myklebust, H.R. The Pupil Behaviour Rating Scale. New York: Grune and Stratton, 1971.

Newcomer, P.L. & Hammill, D. ITPA and Academic Achievement: A Survey. Reading Teacher, 1975, 28(8), 731-741.

Nie, N.H. and Hull, C.H. SPSS Batch Release 7.0 Update Manual. March, 1977.

Nie, N., Hull, C.H., Jenkins, J., Steinbrenner, K., and Bent, D.H. Statistical Package for the Social Sciences (SPSS), Second Edition. New York: McGraw-Hill, 1975.

Novack, H.S., Bonaventura, E. & Merenda, P.F. A scale for the Early Detection of Children with Learning Problems. Exceptional Children, 1973, 40, 98-106.

Plant, W. & Southern, M.L. First Grade Reading Achievement Predicted from WPPSI and Other Scores Obtained 18 months earlier. Proceedings 76th Annual Convention American Psychological Association, 3, 1968, 593-4.

Raven, J.C. The Coloured Progressive Matrices. London: H.K. Lewis & Co., Ltd., 1965.

Renfrew, C.E. Action Picture Test Manual. Oxford: The Churchill Hospital, 1971.

Swain, M. and Burnaby, B. Personality Characteristics and Second Language Learning in Young Children: A Pilot Study. Working Papers on Bilingualism. Toronto: Ontario Institute for Studies in Education, 11, 1976, 115-128.

Tourond, M., Thomson, C., Lokan, J., and Hendelman, T. A Validation of the Checklist of French Immersion Kindergarten Teacher Observations. Unpublished Research Report #77-03, Research Centre, Carleton Board of Education, Ottawa, 1977.

Trites, R.L. Neuropsychology Test Manual. Montreal: Ronalds Federated, 1977.

Trites, R.L. and Price, M.A. Learning Disabilities Found in Association with French Immersion Programming. Toronto: Ministry of Education, Ontario, 1976.

Trites, R.L. and Price, M.A. Learning Disabilities Found in Association with French Immersion Programming: A Cross Validation. Toronto: Ministry of Education, Ontario: 1977.

Trites, R.L. and Price, M.A. Assessment of Readiness for Primary French Immersion. Toronto: Ministry of Education, Ontario, 1978.

Wand, Barbara. Kindergarten Screening for Potential Reading Difficulties. Final Report, Ottawa, June, 1974.

APPENDIX 1

Test Behavior Observation Guide

(Observer Checklist)

TEST BEHAVIOUR OBSERVATION GUIDE *

A. Amount of Motor Activity
___1.Almost motionless
___3.Infrequent movement
___5.Average
___7.Frequent movement
___9.Extreme movement

B. Performance Rate
___1.Extremely slow
___3.Slow
___5.Average
___7.Rapid
___9.Extremely rapid

C. Manual Dexterity
___1.Extremely awkward
___3.Awkward
___5.Average
___7.Skillful
___9.Extremely skillful

D. Amount of Speech
___1.Mute(practically)
___3.Quiet
___5.Average
___7.Talkative
___9.Loquacious

E. Attention
___1.Almost impossible to get and hold
___3.Easily distracted
___5.Moderately attentive
___7.Relatively undisturbed by external stimuli
___9.Oblivious to external stimuli

F. Anxiety
___1.Extremely ill at ease
___3.Rather anxious,poorly poised
___5.Average social confidence
___7.Better than average social confidence
___9.Completely at ease

G. Self Confidence
___1.Painful uncertainty
___3.Inclined to distrust own ability
___5.Somewhat confident
___7.Rather self confident and assured
___9.Completely self confident

H. Effort Displayed
___1.Lackadaisical,indifferent
___3.Works perfunctorily
___5.Strives for success
___7.Works diligently
___9.Expends maximum effort

I. Cooperation Given to Examiner
___1.Negativistic,uncooperative
___3.Somewhat negativistic
___5.Generally good
___7.Cooperates readily
___9.Cooperates enthusiastically

J. Interest
___1.Completely uninterested
___3.Lack of interest shown
___5.Adequate interest shown
___7.Definitely interested
___9.Enthusiastic

* A. Atwell, R. Orpet and C. Meyers. Kindergarten Behavior Ratings as a Predictor of Academic Achievement. Journal of School Psychology, 1967, 6, 43-46.

APPENDIX 2

Conners Teacher Questionnaire

(English and French Versions)

CONNERS' TEACHER QUESTIONNAIRE

V. Listed below are descriptive terms of behaviour. Place a check mark in the column which best describes this child. ANSWER ALL ITEMS.

Observation	Degree of Activity			
	Not at all	Just a little	Pretty much	Very much
CLASSROOM BEHAVIOUR				
1. Constantly fidgeting				
2. Hums and makes other odd noises				
3. Demands must be met immediately-easily frustrated				
4. Coordination poor				
5. Restless or overactive				
6. Excitable, impulsive				
7. Inattentive, easily distracted				
8. Fails to finish things he starts-short attention span				
9. Overly sensitive				
10. Overly serious or sad				
11. Daydreams				
12. Sullen or sulky				
13. Cries often and easily				
14. Disturbs other children				
15. Quarrelsome				
16. Mood changes quickly and drastically				
17. Acts "smart"				
18. Destructive				
19. Steals				
20. Lies				
21. Temper outbursts, explosive and unpredictable behaviour				
GROUP PARTICIPATION				
22. Isolates himself from other children				
23. Appears to be unaccepted by group				
24. Appears to be easily led				
25. No sense of fair play				
26. Appears to lack leadership				
27. Does not get along with opposite sex				
28. Does not get along with same sex				
29. Teases other children or interferes with their activities				
ATTITUDE TOWARD AUTHORITY				
30. Submissive				
31. Defiant				
32. Impudent				
33. Shy				
34. Fearful				
35. Excessive demands for teacher's attention				
36. Stubborn				
37. Overly anxious to please				
38. Uncooperative				
39. Attendance problem				

How would you rate this child's behaviour compared to other children the same age?

much worse ☐ worse ☐ about the same ☐ better ☐ much better ☐

Signature _____ Title _____ Date Signed _____

TRITES, OTTAWA

V. Énumérées ci-dessous sont des termes descriptifs de comportement. Placez un crochet dans la colonne qui décrit le mieux cet enfant. RÉPONDEZ À TOUS LES NUMÉROS.

Observations	Niveau			
	Pas du tout	Un peu	Assez souvent	Beaucoup
COMPORTEMENT EN CLASSE				
1. Toujours remuant.				
2. Fredonne et fait d'autres bruits étranges.				
3. Ses demandes doivent être satisfaites immédiatement – facilement frustré				
4. Pauvre coordination.				
5. Agité ou trop actif.				
6. Excitable, impulsif.				
7. Inattentif, facilement distrait.				
8. Ne finit pas ce qu'il commence; attention de courte durée.				
9. Trop sensible.				
10. Trop sérieux ou triste.				
11. Porté à la rêverie.				
12. Maussade ou boudeur.				
13. Pleure souvent et trop facilement.				
14. Dérange les autres.				
15. Querelleur				
16. Humeur change vite et radicalement.				
17. Agit rudement.				
18. Est destructeur.				
19. Vole.				
20. Dit des mensonge.				
21. Crises de colère, comportement imprévisible.				
PARTICIPATION EN GROUPE				
22. S'isole des autres enfants.				
23. Ne semble pas être accepté du groupe.				
24. Semble se faire facilement mener.				
25. N'a pas le sens de jouer franc jeu.				
26. Semble manquer des qualités de chef.				
27. Ne s'accorde pas avec le sexe opposé.				
28. Ne s'accorde pas avec le même sexe.				
29. Taquine les autres ou dérange leurs activités.				
ATTITUDE ENVERS L'AUTORITÉ				
30. Soumis, docile.				
31. Défiant.				
32. Effronté.				
33. Resérvé.				
34. Craintif.				
35. Demandes excessives pour l'attention du maître.				
36. Obstiné.				
37. Trop désireux à plaire.				
38. N'est pas coopératif.				
39. Problème d'assiduité scolaire.				

Comment évaluez-vous le comportement de cet enfant comparé à d'autres enfants du même âge?

beaucoup pire ☐ pire ☐ à peu près le même ☐ meilleur ☐ beaucoup meilleur ☐

Signature _____ Titre _____ Date de signature _____

TRITES, OTT

APPENDIX 3

Teacher Ratings

(English and French Versions)

TEACHER RATINGS

NAME _____

Compared to the other children in your class, please rate this child on the factors listed below:

Comprehension of French

Below Average | Average | Above Average

Oral skills in French

Below Average | Average | Above Average

Present functioning level

Early Kg | Mid Kg | Ready for gr 1

Would you recommend that this child be enrolled in French immersion grade 1 in Sept, 1978?

☐ yes ☐ no

If Yes please indicate reasons _____

_____

_____

If No, please indicate reasons _____

_____

_____

Did this child encounter any particular difficulties this year?

☐ yes ☐ no

Please describe _____

_____

Did this child need any special help this year?

☐ yes ☐ no

Please describe _____

_____

Will this child need any special help next year?

☐ yes ☐ no

Please describe _____

_____

EVALUATION DU PROFESSEUR

NOM _____

A comparer aux autres enfants de votre classe, évaluez s'il-vous-plait cet enfant sur les critères mentionnés ci-dessous:

Compréhension en Français

en dessous de la moyenne	moyen	au-dessus de la moyenne

Habilité orale en Français

en dessous de la moyenne	moyen	au-dessus de la moyenne

Présentement à quel niveau évolue l'enfant?

pré-maternell	maternelle	prêt (e) pour la première année

Recommanderiez-vous que cet enfant soit inscrit(e) en immersion Française (Grade I) en septembre 1978?

☐ oui ☐ non

Si oui, indiquez les raisons: _____

_____

_____

Si non, indiquez les raisons: _____

_____

_____

Est-ce que cet enfant a démontré des difficultés particulières cette année?

☐ oui ☐ non

Décrivez s'il-vous-plaît: _____

_____

Est-ce que cet enfant a eu besoin d'aide particulière cette année?

☐ oui ☐ non

Décrivez s'il-vous-plaît _____

_____

Est-ce que cet enfant aura besoin d'aide particulière l'année prochaine?

☐ oui ☐ non

Décrivez s'il-vous-plaît _____

_____

APPENDIX 4

Parents' Ratings

PARENTS' RATINGS *

Any information you may give on the enclosed form will not be placed in the childs school record. It will be kept strictly confidential by the research team from the Neuropsychology Laboratory, Royal Ottawa Hospital.

Child's Name _____

Age _____ Birth Date _____
Month Day Year

School _____

Teacher _____

Which school program is your child attending at the present time?

Regular English 5-year-old kindergarten

French immersion 5-year-old kindergarten

Other. Please specify _____

_____

* Version disbributed to parents of children enrolled in French immersion in the Spring of 1978.

Has your child encountered any particular difficulties in 5-year-old French immersion kindergarten?

☐ yes ☐ no

If Yes, please describe _____

_____

_____

Are you satisfied with your child's progress in learning to speak French in this program?

☐ yes ☐ no

Are you satisfied with your child's progress in developing readiness for reading, spelling and arithmetic?

☐ yes ☐ no

Are you satisfied with your child's progress in acquiring social skills?

☐ yes ☐ no

Have you any concerns about the French immersion 5-year-old kingergarten program in which your child is enrolled?

☐ yes ☐ no

Please describe _____

_____

_____

Does your child like the French immersion program?

☐ yes ☐ no

Did your child need any special help in school this year?

☐ yes ☐ no

Please describe _____

_____

_____

Do you intend to enrol your child in French immersion grade 1 in Sept of 1978?

☐ yes ☐ no

If Yes, please specify your reasons _____

_____

_____

If No, please specify your reasons _____

_____

_____

Will your child need any special help in school next year?

☐ yes ☐ no ☐ don't know

Please describe _____

_____

_____

Does your child hear French spoken in the home?

☐ yes ☐ no

Does your child hear French spoken in the neighbourhood?

☐ yes ☐ no

Does your child watch French TV programs?

☐ not at all
☐ occasionally
☐ once or twice per week
☐ several times per week
☐ almost every day

Does your child hear French radio programs and/or French records?

- [ ] not at all
- [ ] occasionally
- [ ] frequently

Is your child read to in French?

- [ ] not at all
- [ ] occasionally
- [ ] once or twice a week
- [ ] several times per week
- [ ] almost daily

PARENTS' RATINGS*

Any information you may give on the enclosed form will not be placed in the childs school record. It will be kept strictly confidential by the research team from the Neuropsychology Laboratory, Royal Ottawa Hospital.

Child's Name _____

Age _____ Birth Date _____
Month Day Year

School _____

Teacher _____

Which school program is your child attending at the present time?

Regular English 5-year-old kindergarten

French immersion 5-year-old kindergarten

Other. Please specify _____

_____

* Version distributed to parents of children enrolled in an English program in 1977-78.

What school program is your child attending at present?

_____

_____

_____

In the Spring of 1977 you indicated to us that you were considering enrolling your child in a French immersion kindergarten class.

We are interested in finding out the criteria parents use in coming to a final decision on this matter and would be glad if you would give us your reasons for not enrolling your child in the French immersion program at this time.

_____

_____

_____

_____

Are you satisfied with your child's progress in developing readiness for reading, spelling and arithmetic

☐ yes ☐ no

Are you satisfied with your child's progress in acquiring social skills this year?

☐ yes ☐ no

Does your child like the school program?

☐ yes ☐ no

Has your child encountered any particular difficulties in school this year?

☐ yes ☐ no

Please describe _____

_____

_____

Did your child need any special help in school this year?

☐ yes ☐ no

Please describe _____

_____

What program will your child attend in Sept of 1978?

_____

_____

_____

Will your child need any special help in school next year?

☐ yes ☐ no ☐ dont' know

Please describe _____

_____

Do you intend to enrol your child in a French immersion program in the future?

☐ yes ☐ no

If Yes, please indicate reasons _____

_____

_____

If No, please indicate reasons _____

_____

Does your child hear French spoken in the home?

☐ yes ☐ no

Does your child hear French spoken in the neighbourhood?

☐ yes ☐ no

Does your child watch French TV programs?

- ☐ not at all
- ☐ occasionally
- ☐ once or twice per week
- ☐ several times per week
- ☐ almost every day

Does your child hear French radio programs and/or French records?

- ☐ not at all
- ☐ occasionally
- ☐ frequently

Is your child read to in French?

- ☐ not at all
- ☐ occasionally
- ☐ once or twice a week
- ☐ several times per week
- ☐ almost daily

PARENTS' RATINGS *

Any information you may give on the enclosed form will not be placed in the childs school record. It will be kept strictly confidential by the research team from the Neuropsychology Laboratory, Royal Ottawa Hospital.

Child's Name _____

Age ____ ____ Birth Date _____
Month Day Year

School _____

Teacher _____

Which school program is your child attending at the present time?

Regular English 5-year-old kindergarten

French immersion 5-year-old kindergarten

Other. Please specify _____

_____

* Version distributed to parents of children who were transferred to an English program from French immersion during the 1977-78 school year.

How long did your child spend in the French immersion program?

_____

Were you satisfied with your child's progress in learning to speak French while in the French immersion program?

☐ yes ☐ no

Were you satisfied with your child's progress in developing readiness for reading, spelling and arithmetic while in the French immersion program?

☐ yes ☐ no

Were you satisfied with your child's progress in social skills while in the French immersion program?

☐ yes ☐ no

Please indicate the reasons for transferring your child to a regular English program?

_____

_____

_____

_____

Did your child encounter any particular difficulties in the French immersion program?

☐ yes ☐ no

If Yes, please describe _____

_____

_____

Have you any concerns about the French immersion 5-year-old kindergarten in which your child was enrolled?

☐ yes ☐ no

Please describe _____

_____

Did your child like the French immersion program?

☐ yes ☐ no

Did your child need any special help in school this year?

☐ yes ☐ no

Please describe _____

_____

Are you satisfied with your child's progress in the regular English program?

☐ yes ☐ no

Does your child like the regular English program?

☐ yes ☐ no

What program will your child attend in September of 1978?

_____

_____

_____

Will your child need any special help in school next year?

☐ yes ☐ no ☐ don't know

Please describe _____

_____

Do you intend to enrol your child in a French immersion program in the future?

☐ yes ☐ no

If Yes, please indicate reasons _____

_____

If No, please indicate reasons _____

_____

Does your child hear French spoken in the home?

☐ yes ☐ no

Does your child hear French spoken in the neighbourhood?

☐ yes ☐ no

Does your child watch French TV programs?

☐ not at all

☐ occasionally

☐ once or twice per week

☐ several times per week

☐ almost every day

Does your child hear French radio programs and/or French records?

☐ not at all

☐ occasionally

☐ frequently

Is your child read to in French?

☐ not at all

☐ occasionally

☐ once or twice a week

☐ several times per week

☐ almost daily

PARENTS' RATINGS*

Any information you may give on the enclosed form will not be placed in the childs school record. It will be kept strictly confidential by the research team from the Neuropsychology Laboratory, Royal Ottawa Hospital.

Child's Name _____

Age _____ Birth Date _____
Month Day Year

School _____

Teacher _____

Which school program is your child attending at the present time?

Regular English 5-year-old kindergarten

French immersion 5-year-old kindergarten

Other. Please specify _____

_____

* Version distributed to parents of children enrolled in a bilingual kindergarten program in 1977-78.

In the Spring of 1977 you indicated to us that you were considering enrolling your child in a French Immersion kindergarten class. We understand that you decided to place your child in a bilingual program and we are interested in finding out the criteria parents use in coming to a final decision on this matter, and would, therefore, be glad if you would give us your reasons in this questionnaire.

Please give reasons for selecting a bilingual program over a French Immersion program:

_____

_____

_____

_____

_____

Are you satisfied with your child's progress in learning to speak French in the Bilingual program:

☐ YES ☐ NO

Are you satisfied with your child's progress in developing readiness for reading, spelling and arithmetic

☐ YES ☐ NO

Are you satisfied with your child's progress in acquiring social skills this year?

☐ YES ☐ NO

Does your child like the school program?

☐ YES ☐ NO

Has your child encountered any particular difficulties in school this year?

☐ YES ☐ NO

Please describe _____

_____

_____

Did your child need any special help in school this year?

☐ yes ☐ no

Please describe _____

_____

What program will your child attend in Sept of 1978?

_____

_____

_____

Will your child need any special help in school next year?

☐ yes ☐ no ☐ dont' know

Please describe _____

_____

Do you intend to enrol your child in a French immersion program in the future?

☐ yes ☐ no

If Yes, please indicate reasons _____

_____

_____

If No, please indicate reasons _____

_____

Does your child hear French spoken in the home?

☐ yes ☐ no

Does your child hear French spoken in the neighbourhood?

☐ yes ☐ no

Does your child watch French TV programs?

- [ ] not at all
- [ ] occasionally
- [ ] once or twice per week
- [ ] several times per week
- [ ] almost every day

Does your child hear French radio programs and/or French records?

- [ ] not at all
- [ ] occasionally
- [ ] frequently

Is your child read to in French?

- [ ] not at all
- [ ] occasionally
- [ ] once or twice a week
- [ ] several times per week
- [ ] almost daily

APPENDIX 5

Biographical and Background Information Questionnaire

BIOGRAPHICAL AND BACKGROUND INFORMATION

This information will not be put into school files. It will be kept confidential by the research team from the Neuropsychology Laboratory, Royal Ottawa Hospital.

1. Name of child in junior kindergarten _____
   First Last

2. Age _____

3. Birthdate _____ Today's date _____
   Month Day Year Month Day Year

4. Sex Male ☐ Female ☐

5. School _____

6. Teacher _____

7. Which hand does your child tend to prefer for pencil work?
   Right ☐ Left ☐ No preference ☐

8. Handedness of parents for writing: Mother Right ☐ Left ☐ Father Right ☐ Left ☐

9. Are any of your other children left-handed?
   Yes ☐ No ☐ There are no other children ☐

10. Does your child have any special needs or handicaps? NO ☐
    Speech therapy ☐
    Hearing aid ☐
    Medications ☐ If so, which ones? _____
    Other (Please specify) _____

11. Did your child attend a Day Care Centre?
    Did not attend ☐
    Attended half day ☐ starting date, month____year____
    ending date, month____year____
    Attended full day ☐ starting date, month____year____
    ending date, month____year____
    Name and location of Centre(s) _____

12. Did your child attend a Nursery School?
    Did not attend ☐
    Attended half day ☐ starting date, month____year____
    ending date, month____year____
    Attended full day ☐ starting date, month____year____
    ending date, month____year____
    Name and location of Centre(s) _____

page 2 Child's Name_____

13. Is your child presently attending a Nursery School or Day Care Centre as well as junior kindergarten?

Nursery School: Yes ☐ No ☐ Day Care Centre: Yes ☐ No ☐

14. What language is most often spoken in your home: Check one box only.

English ☐
French ☐
Italian ☐
German ☐
Other (Please specify)_____

15. What additional languages are spoken in your home?

None ☐ or, (specify)_____

16a. Do you speak French? Mother: Yes ☐ No ☐ Father: Yes ☐ No ☐

16b. If no, do you want to learn to speak French?

Mother: Yes ☐ No ☐ Father: Yes ☐ No ☐

17. Have you taken a French course other than in elementary school or in high school?

Mother: Yes ☐ Describe_____ No ☐ _____
Father: Yes ☐ Describe_____ No ☐ _____

18. Does your child hear French spoken in the home? Yes ☐ No ☐

19. Does your child hear French spoken in the neighbourhood? Yes ☐ No ☐

20a. Do you intend to enrol your child in French immersion kindergarten in September, 1977? Yes ☐ No ☐

20b. If no, what are your reasons for not enrolling your child in French immersion?_____

_____

_____

20c. If yes, what are your reasons for enrolling your child in French immersion?_____

_____

_____

page 3 Child's Name_____

21. Speaking generally, do you think that a child needs to have any special characteristics to do well in French immersion? Yes ☐ No ☐

Describe_____

_____

22a. Have you enrolled any of your other children in French immersion?

Yes ☐ No ☐

22b. If yes, how many?_____

Describe their program(s) (for example, grade 7 late immersion)____

_____

_____

22c. Have any of your children had diffficulty in French immersion?

Yes ☐ No ☐ Not applicable ☐

Describe any difficulties_____

_____

23. What is father's occupation? Please describe your present job and the type of organization you work in. Examples: "Shoe salesman in a department store", "Stenographer, Level 2 in the Federal Government", "Owner-manager of a small Supermarket." (If you are not presently working outside of the home, please indicate present situation, e.g. student)_____

_____

_____

24. What is mother's occupation? Please describe your present job and the type of organization you work in. Examples: See Question #23. (If you are not presently employed outside of the home, please indicate present situation, e.g. housewife, student)_____

_____

_____

25. About how often is your child read to at home?

☐ occasionally; ☐ once or twice a week; ☐ several times a week; ☐ almost every nigh

 Child's Name_____

26. About how many books (hard or soft cover) do you have in your home?

- 0-10 ☐
- 11-30 ☐
- 31-60 ☐
- 61-100 ☐
- 101-200 ☐
- 201-499 ☐
- 500 or more ☐

27. About how many of these are "children's books"?

☐ None ☐ Some ☐ Most ☐ Almost all

PLEASE NOTE THAT THIS IS NOT A REGISTRATION FORM. THE SCHOOL WILL CONTACT YOU ABOUT FRENCH IMMERSION SENIOR KINDERGARTEN REGISTRATION.

Form filled in by: Name _____

Address _____

_____

APPENDIX 6

Four-year-old Kindergarten

Teacher Ratings

TEACHER'S RATINGS Date_____

Name of Child_____
First Last

Teacher_____

School_____

Please rate the child on the following 3-point scales by placing a check mark above the appropriate category:

Ability: _____
below average | average | above average

Social Maturation: _____
below average | average | above average

Motivation: _____
below average | average | above average

Do you think that this child will have particular difficulty in school? Yes ☐ No ☐

If Yes, for what reason(s):

- Below average ability ☐
- Language difficulties ☐
- Immature ☐
- Cannot concentrate ☐
- Emotional or social adjustment problems ☐
- Not motivated ☐
- Other (please list)_____

_____

_____

Do you think it advisable that this child be enrolled in French immersion kindergarten in September, 1977?

Yes ☐ No ☐

Please indicate reasons_____

_____

_____

APPENDIX 7

Test Names and Abbreviations

Variable Name		Computer Code
I. Early Identification Assessment Battery		
AGE		AGE
SEX		SEX
DOMINANCE		DOM
WPPSI:	Verbal IQ	VIQ
	Performance IQ	PIQ
	Full Scale IQ	FSIQ
	Information	INF
	Vocabulary	VOC
	Arithmetic	ARTH
	Similarities	SIM
	Comprehension	COMP
	Sentences	SENT
	Animal House	AH
	Picture Completion	PC
	Mazes	MAZ
	Geometric Design	GD
	Block Design	BD
PEABODY:	Mental Age	PEABMA
	IQ	PEABIQ
MATRICES:	Raw Score	MATRS
	Percentile	MATSS
	(norms: age 5½)	
WRAT:	Reading grade score	WRAR
	Spelling grade score	WRAS
	Arithmetic grade score	WRAA
	Reading percentile	WRARP
	Spelling percentile	WRASP
	Arithmetic percentile	WRAAP
	(for Ss age > 5.0 years)	
DOMINANCE DEMONSTRATIONS:	# Right	DOMR
	# Left	DOML
FORMBOARD:	Right hand: time	FRHT
	Right hand: # blocks	FRHB
	Left hand: time	FLHT
	Left hand: # blocks	FLHB
	Both hands: time	FBT
	Both hands: blocks	FBB
	Both time	FTOTT
	Total # blocks	FTOTB
	Dominant hand: time	FDOMT
	Dominant hand: # blocks	FDOMB
	Nondominant hand: time	FNONT
	Nondominant hand: # blocks	FNONB

Variable Name		Computer Code
Time per block:	Both hands	TPBBOTH
	Total	TPBTOTAL
	Dominant hand	TPBDOMIN
	Nondominant hand	TPBNODOM
PICTURE NAMING:	Time	PICTIME
	# Errors	PICERR
COLOUR NAMING:	# Correct	COLCOR
WORD SEGMENTING:		
	TOTAL # words segmented in any way	SEGTOT
	PARTIAL # words segmented in any way	SEGPART
	TOTAL # words segmented - syllable boundaries	SYLTOT
	PARTIAL # words segmented - syllable boundaries	SYLPART
OBSERVER'S CHECKLIST		
	A - Amount of Motor Activity	OBSA
	B - Performance Rate	OBSB
	C - Manual Dexterity	OBSC
	D - Amount of Speech	OBSD
	E - Attention	OBSE
	F - Anxiety	OBSF
	G - Self-confidence	OBSG
	H - Effort Displayed	OBSH
	I - Cooperation given to examiner	OBSI
	J - Interest	OBSJ
RENFREW ACTION PICTURE TEST		
	Information	RENINF
	Grammar	RENGRAM
CONNERS TEACHER QUESTIONNAIRE		
	Conduct Problem	CONPROB
	Inattentive-passiae	CONPASS
	Tension-anxiety	CONANX
	Hyperactivity	CONHYP
	Total	CONTOT
PUPIL RATING SCALE (Teachers)		
	Auditory Comprehension	AUDCOMP
	Spoken Language	SPOKLAN
	Orientation	ORIEN
	Motor Coordination	MOTCOR
	Personal-Social Behavior	PERSOC
	Verbal Score	VERB
	Nonverbal Score	NONVERB
	Total Score	MYKTOT

Variable Name	Computer Code
# 2: How Much and How Many	CIR2TOT
# 5: Finding Letters and Numbers	CIR5TOT
# 7: How Words Sound	CIR7TOT
# 9: Listen to the Story	CIR9TOT
#13: Think it Through	CIR13TOT

II. Kindergarten Follow-up Assessment Battery

AGE	XAGE
FRENCH COMPREHENSION TEST: Raw	XFRCOMPR
Percentile	XFRCOMPP
PEABODY: Mental Age	XPEABMA
IQ	XPEABIQ
RENFREW ACTION PICTURE TEST	
Information	XRENINF
Grammar	XRENGRM
WORD SEGMENTING	
TOTAL # words segmented in any way	XSEGTOT
TOTAL # words segmented - syllable boundaries	XSEGSYL
TACTUAL PERFORMANCE TEST	
Right hand: time	XFRHT
Right hand: # blocks	XFRHB
Left hand: time	XFLHT
Left hand: # blocks	XFLHB
Both hands: time	XFBHT
Both hands: # blocks	XFBHB
Dominant hand: time	XFDOMT
Dominant hand: # blocks	XFDOMB
Nondominant hand: time	XFNONT
Nondominant hand: # blocks	XFNONB
Total time	XFTOTT
Total blocks	XFTOTB
Memory	XMEM
Location	XLOC

Time per block: Right hand
Left hand
Both hands
Total
Dominant hand
Nondominant hand

Variable Name		Computer Code
PICTURE NAMING:	Time	XPICTIM
	Errors	XPICERR
WRAT (English):	Reading percentile	XWRARP
	Spelling percentile	XWRASP
	Arithmetic percentile	XWRAAP
	Reading grade score	XWRARG
	Spelling grade score	XWRASG
	Arithmetic grade score	XWRAAG
LETTER NAMING (French)		XFWRAR
COUNTING/NUMBER NAMING (French)		XFWRAA
CIRCUS:	# 9: Listen to the Story	XCIR9T
	#13: Think it Through	XCIR13T
CONNERS TEACHER QUESTIONNAIRE		
	Conduct Problem	XCONCP
	Inattentive-passive	XCONIP
	Tension-Anxiety	XCONTA
	Hyperactivity	XCONHY
	Total	XCONT
OBSERVER CHECKLIST		
	A - Amount of Motor Activity	XOBSA
	B - Performance Rate	XOBSB
	C - Manual Dexterity	XOBSC
	D - Amount of Speech	XOBSD
	E - Attention	XOBSE
	F - Anxiety	XOBSF
	G - Self-confidence	XOBSG
	H - Effort Displayed	XOBSH
	I - Cooperation given to examiner	XOBSI
	J - Interest	XOBSJ